

SEQUENCE LISTING

<110> Rouleau, Guy A.
Lafreniere, Ronald G.
Rochefort, Daniel

<120> LOCI FOR IDIOPATHIC GENERALIZED EPILEPSY, MUTATIONS THEREOF AND METHOD
USING SAME TO ASSESS, DIAGNOSE, PROGNOSIS OR TREAT EPILEPSY

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<141> 2003-09-17

<140> 09/718,355

<141> 2000-11-24

<150> 60/167,623

<151> 1999-11-26

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<170> PatentIn version 3.1

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			20					25					30		

Lys	Ala	Lys	Asn	Pro	Lys	Pro	Asp	Lys	Lys	Asp	Asp	Asp	Glu	Asn	Gly
		35					40					45			

Pro	Lys	Pro	Asn	Ser	Asp	Leu	Glu	Ala	Gly	Lys	Asn	Leu	Pro	Phe	Ile
	50					55					60				

Tyr	Gly	Asp	Ile	Pro	Pro	Glu	Met	Val	Ser	Glu	Pro	Leu	Glu	Asp	Leu
65					70					75				80	

Asp	Pro	Tyr	Tyr	Ile	Asn	Lys	Lys	Thr	Phe	Ile	Val	Leu	Asn	Lys	Gly
				85					90					95	

Lys Ala Ile Phe Arg Phe Ser Ala Thr Ser Ala Leu Tyr Ile Leu Thr
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Pro Phe Asn Pro Leu Arg Lys Ile Ala Ile Lys Ile Leu Val His Ser
115 120 125

Leu Phe Ser Met Leu Ile Met Cys Thr Ile Leu Thr Asn Cys Val Phe
130 135 140

Met Thr Met Ser Asn Pro Pro Asp Trp Thr Lys Asn Val Glu Tyr Thr
145 150 155 160

Phe Thr Gly Ile Tyr Thr Phe Glu Ser Leu Ile Lys Ile Ile Ala Arg
165 170 175

Gly Phe Cys Leu Glu Asp Phe Thr Phe Leu Arg Asp Pro Trp Asn Trp
180 185 190

Leu Asp Phe Thr Val Ile Thr Phe Ala Tyr Val Thr Glu Phe Val Asp
195 200 205

Leu Gly Asn Val Ser Ala Leu Arg Thr Phe Arg Val Leu Arg Ala Leu
210 215 220

Lys Thr Ile Ser Val Ile Pro Gly Leu Lys Thr Ile Val Gly Ala Leu
225 230 235 240

Ile Gln Ser Val Lys Lys Leu Ser Asp Val Met Ile Leu Thr Val Phe
245 250 255

Cys Leu Ser Val Phe Ala Leu Ile Gly Leu Gln Leu Phe Met Gly Asn
260 265 270

Leu Arg Asn Lys Cys Ile Gln Trp Pro Pro Thr Asn Ala Ser Leu Glu
275 280 285

Glu His Ser Ile Glu Lys Asn Ile Thr Val Asn Tyr Asn Gly Thr Leu
290 295 300

Ile Asn Glu Thr Val Phe Glu Phe Asp Trp Lys Ser Tyr Ile Gln Asp
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Ser Arg Tyr His Tyr Phe Leu Glu Gly Phe Leu Asp Ala Leu Leu Cys
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Gly Asn Ser Ser Asp Ala Gly Gln Cys Pro Glu Gly Tyr Met Cys Val
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Lys Ala Gly Arg Asn Pro Asn Tyr Gly Tyr Thr Ser Phe Asp Thr Phe
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Ser Trp Ala Phe Leu Ser Leu Phe Arg Leu Met Thr Gln Asp Phe Trp
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Glu Asn Leu Tyr Gln Leu Thr Leu Arg Ala Ala Gly Lys Thr Tyr Met
385 390 395 400

Ile Phe Phe Val Leu Val Ile Phe Leu Gly Ser Phe Tyr Leu Ile Asn
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Thr Leu Glu Glu Ala Glu Gln Lys Glu Ala Glu Phe Gln Gln Met Ile
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Glu Gln Leu Lys Lys Gln Gln Glu Ala Ala Gln Gln Ala Ala Thr Ala
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Thr Ala Ser Glu His Ser Arg Glu Pro Ser Ala Ala Gly Arg Leu Ser
465 470 475 480

Asp Ser Ser Ser Glu Ala Ser Lys Leu Ser Ser Lys Ser Ala Lys Glu
485 490 495

Arg Arg Asn Arg Arg Lys Lys Arg Lys Gln Lys Glu Gln Ser Gly Gly
500 505 510

Glu Glu Lys Asp Glu Asp Glu Phe Gln Lys Ser Glu Ser Glu Asp Ser
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Ile Arg Arg Lys Gly Phe Arg Phe Ser Ile Glu Gly Asn Arg Leu Thr
530 535 540

Tyr Glu Lys Arg Tyr Ser Ser Pro His Gln Ser Leu Leu Ser Ile Arg
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Gly Ser Leu Phe Ser Pro Arg Arg Asn Ser Arg Thr Ser Leu Phe Ser
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Phe Arg Gly Arg Ala Lys Asp Val Gly Ser Glu Asn Asp Phe Ala Asp
580 585 590

Asp Glu His Ser Thr Phe Glu Asp Asn Glu Ser Arg Arg Asp Ser Leu
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Phe Val Pro Arg Arg His Gly Glu Arg Arg Asn Ser Asn Leu Ser Gln
610 615 620

Thr Ser Arg Ser Ser Arg Met Leu Ala Val Phe Pro Ala Asn Gly Lys
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Met His Ser Thr Val Asp Cys Asn Gly Val Val Ser Leu Val Gly Gly
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Pro Ser Val Pro Thr Ser Pro Val Gly Gln Leu Leu Pro Glu Val Ile
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Ile Asp Lys Pro Ala Thr Asp Asp Asn Gly Thr Thr Thr Glu Thr Glu
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Met Arg Lys Arg Arg Ser Ser Ser Phe His Val Ser Met Asp Phe Leu
690 695 700

Glu Asp Pro Ser Gln Arg Gln Arg Ala Met Ser Ile Ala Ser Ile Leu
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Thr Asn Thr Val Glu Glu Leu Glu Glu Ser Arg Gln Lys Cys Pro Pro
725 730 735

Cys Trp Tyr Lys Phe Ser Asn Ile Phe Leu Ile Trp Asp Cys Ser Pro
740 745 750

Tyr Trp Leu Lys Val Lys His Val Val Asn Leu Val Val Met Asp Pro
755 760 765

Phe Val Asp Leu Ala Ile Thr Ile Cys Ile Val Leu Asn Thr Leu Phe

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Ile	Arg	Lys	Gln	Lys	Ile	Leu	Asp	Glu	Ile	Lys	Pro	Leu	Asp	Asp
1040						1045					1050			
Leu	Asn	Asn	Lys	Lys	Asp	Ser	Cys	Met	Ser	Asn	His	Thr	Ala	Glu
1055						1060					1065			
Ile	Gly	Lys	Asp	Leu	Asp	Tyr	Leu	Lys	Asp	Val	Asn	Gly	Thr	Thr
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Ser	Gly	Ile	Gly	Thr	Gly	Ser	Ser	Val	Glu	Lys	Tyr	Ile	Ile	Asp
1085						1090					1095			
Glu	Ser	Asp	Tyr	Met	Ser	Phe	Ile	Asn	Asn	Pro	Ser	Leu	Thr	Val
1100						1105					1110			
Thr	Val	Pro	Ile	Ala	Val	Gly	Glu	Ser	Asp	Phe	Glu	Asn	Leu	Asn
1115						1120					1125			
Thr	Glu	Asp	Phe	Ser	Ser	Glu	Ser	Asp	Leu	Glu	Glu	Ser	Lys	Glu
1130						1135					1140			
Lys	Leu	Asn	Glu	Ser	Ser	Ser	Ser	Ser	Glu	Gly	Ser	Thr	Val	Asp
1145						1150					1155			
Ile	Gly	Ala	Pro	Val	Glu	Glu	Gln	Pro	Val	Val	Glu	Pro	Glu	Glu
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Thr	Leu	Glu	Pro	Glu	Ala	Cys	Phe	Thr	Glu	Gly	Cys	Val	Gln	Arg
1175						1180					1185			
Phe	Lys	Cys	Cys	Gln	Ile	Asn	Val	Glu	Glu	Gly	Arg	Gly	Lys	Gln
1190						1195					1200			
Trp	Trp	Asn	Leu	Arg	Arg	Thr	Cys	Phe	Arg	Ile	Val	Glu	His	Asn
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Trp	Phe	Glu	Thr	Phe	Ile	Val	Phe	Met	Ile	Leu	Leu	Ser	Ser	Gly
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1280						1285					1290			
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Leu	Gly	Ala	Ile	Lys	Ser	Leu	Arg	Thr	Leu	Arg	Ala	Leu	Arg	Pro
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1370						1375					1380			
Arg	Phe	Asp	Ile	Glu	Asp	Val	Asn	Asn	His	Thr	Asp	Cys	Leu	Lys
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Ala Thr	Phe Lys Gly Trp Met	Asp Ile Met Tyr	Ala Ala Val Asp
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Ser Arg	Asn Val Glu Leu Gln	Pro Lys Tyr Glu Glu	Ser Leu Tyr
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Met Tyr	Leu Tyr Phe Val Ile	Phe Ile Ile Phe Gly	Ser Phe Phe
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Thr Leu	Asn Leu Phe Ile Gly	Val Ile Ile Asp Asn	Phe Asn Gln
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Gln Lys	Lys Lys Phe Gly Gly	Gln Asp Ile Phe Met	Thr Glu Glu
1490	1495		1500
Gln Lys	Lys Tyr Tyr Asn Ala	Met Lys Lys Leu Gly	Ser Lys Lys
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Pro Gln	Lys Pro Ile Pro Arg	Pro Gly Asn Lys Phe	Gln Gly Met
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Val Phe	Asp Phe Val Thr Arg	Gln Val Phe Asp Ile	Ser Ile Met
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Ile Leu	Ile Cys Leu Asn Met	Val Thr Met Met Val	Glu Thr Asp
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Asp Gln	Ser Glu Tyr Val Thr	Thr Ile Leu Ser Arg	Ile Asn Leu
1565	1570		1575
Val Phe	Ile Val Leu Phe Thr	Gly Glu Cys Val Leu	Lys Leu Ile
1580	1585		1590
Ser Leu	Arg His Tyr Tyr Phe	Thr Ile Gly Trp Asn	Ile Phe Asp
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Phe Val	Val Val Ile Leu Ser	Ile Val Gly Met Phe	Leu Ala Glu
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Leu Ile	Glu Lys Tyr Phe Val	Ser Pro Thr Leu Phe	Arg Val Ile
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Arg Leu	Ala Arg Ile Gly Arg	Ile Leu Arg Leu Ile	Lys Gly Ala

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Lys Gly Ile Arg Thr Leu	Leu Phe Ala Leu Met	Met Ser Leu Pro		
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Ala Leu Phe Asn Ile Gly	Leu Leu Leu Phe Leu	Val Met Phe Ile		
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Tyr Ala Ile Phe Gly Met	Ser Asn Phe Ala Tyr	Val Lys Arg Glu		
1685	1690	1695		
Val Gly Ile Asp Asp Met	Phe Asn Phe Glu Thr	Phe Gly Asn Ser		
1700	1705	1710		
Met Ile Cys Leu Phe Gln	Ile Thr Thr Ser Ala	Gly Trp Asp Gly		
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Leu Leu Ala Pro Ile Leu	Asn Ser Lys Pro Pro	Asp Cys Asp Pro		
1730	1735	1740		
Asn Lys Val Asn Pro Gly	Ser Ser Val Lys Gly	Asp Cys Gly Asn		
1745	1750	1755		
Pro Ser Val Gly Ile Phe	Phe Phe Val Ser Tyr	Ile Ile Ile Ser		
1760	1765	1770		
Phe Leu Val Val Val Asn	Met Tyr Ile Ala Val	Ile Leu Glu Asn		
1775	1780	1785		
Phe Ser Val Ala Thr Glu	Glu Ser Ala Glu Pro	Leu Ser Glu Asp		
1790	1795	1800		
Asp Phe Glu Met Phe Tyr	Glu Val Trp Glu Lys	Phe Asp Pro Asp		
1805	1810	1815		
Ala Thr Gln Phe Met Glu	Phe Glu Lys Leu Ser	Gln Phe Ala Ala		
1820	1825	1830		
Ala Leu Glu Pro Pro Leu	Asn Leu Pro Gln Pro	Asn Lys Leu Gln		
1835	1840	1845		
Leu Ile Ala Met Asp Leu	Pro Met Val Ser Gly	Asp Arg Ile His		
1850	1855	1860		

Cys Leu Asp Ile Leu Phe Ala Phe Thr Lys Arg Val Leu Gly Glu
1865 1870 1875

Ser Gly Glu Met Asp Ala Leu Arg Ile Gln Met Glu Glu Arg Phe
1880 1885 1890

Met Ala Ser Asn Pro Ser Lys Val Ser Tyr Gln Pro Ile Thr Thr
1895 1900 1905

Thr Leu Lys Arg Lys Gln Glu Glu Val Ser Ala Val Ile Ile Gln
1910 1915 1920

Arg Ala Tyr Arg Arg His Leu Leu Lys Arg Thr Val Lys Gln Ala
1925 1930 1935

Ser Phe Thr Tyr Asn Lys Asn Lys Ile Lys Gly Gly Ala Asn Leu
1940 1945 1950

Leu Ile Lys Glu Asp Met Ile Ile Asp Arg Ile Asn Glu Asn Ser
1955 1960 1965

Ile Thr Glu Lys Thr Asp Leu Thr Met Ser Thr Ala Ala Cys Pro
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 35 40 45

Pro Lys Pro Asn Ser Asp Leu Glu Ala Gly Lys Asn Leu Pro Phe Ile
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Tyr Gly Asp Ile Pro Pro Glu Met Val Ser Glu Pro Leu Glu Asp Leu
 65 70 75 80

Asp Pro Tyr Tyr Ile Asn Lys Lys Thr Phe Ile Val Leu Asn Lys Gly
 85 90 95

Lys Ala Ile Phe Arg Phe Ser Ala Thr Ser Ala Leu Tyr Ile Leu Thr
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Pro Phe Asn Pro Leu Arg Lys Ile Ala Ile Lys Ile Leu Val His Ser
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Leu Phe Ser Met Leu Ile Met Cys Thr Ile Leu Thr Asn Cys Val Phe
 130 135 140

Met Thr Met Ser Asn Pro Pro Asp Trp Thr Lys Asn Val Glu Tyr Thr
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Phe Thr Gly Ile Tyr Thr Phe Glu Ser Leu Ile Lys Ile Ile Ala Arg
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Gly Phe Cys Leu Glu Asp Phe Thr Phe Leu Arg Asp Pro Trp Asn Trp
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Leu Asp Phe Thr Val Ile Thr Phe Ala Phe Val Thr Glu Phe Val Asn
 195 200 205

Leu Gly Asn Phe Ser Ala Leu Arg Thr Phe Arg Val Leu Arg Ala Leu
 210 215 220

Lys Thr Ile Ser Val Ile Pro Gly Leu Lys Thr Ile Val Gly Ala Leu
 225 230 235 240

Ile Gln Ser Val Lys Lys Leu Ser Asp Val Met Ile Leu Thr Val Phe
 245 250 255

Cys Leu Ser Val Phe Ala Leu Ile Gly Leu Gln Leu Phe Met Gly Asn

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275	280	285
Glu His Ser Ile Glu Lys Asn Ile Thr Val Asn Tyr Asn Gly Thr Leu		
290	295	300
Ile Asn Glu Thr Val Phe Glu Phe Asp Trp Lys Ser Tyr Ile Gln Asp		
305	310	315
Ser Arg Tyr His Tyr Phe Leu Glu Gly Phe Leu Asp Ala Leu Leu Cys		
325	330	335
Gly Asn Ser Ser Asp Ala Gly Gln Cys Pro Glu Gly Tyr Met Cys Val		
340	345	350
Lys Ala Gly Arg Asn Pro Asn Tyr Gly Tyr Thr Ser Phe Asp Thr Phe		
355	360	365
Ser Trp Ala Phe Leu Ser Leu Phe Arg Leu Met Thr Gln Asp Phe Trp		
370	375	380
Glu Asn Leu Tyr Gln Leu Thr Leu Arg Ala Ala Gly Lys Thr Tyr Met		
385	390	395
Ile Phe Phe Val Leu Val Ile Phe Leu Gly Ser Phe Tyr Leu Ile Asn		
405	410	415
Leu Ile Leu Ala Val Val Ala Met Ala Tyr Glu Glu Gln Asn Gln Ala		
420	425	430
Thr Leu Glu Glu Ala Glu Gln Lys Glu Ala Glu Phe Gln Gln Met Ile		
435	440	445
Glu Gln Leu Lys Lys Gln Gln Glu Ala Ala Gln Gln Ala Ala Thr Ala		
450	455	460
Thr Ala Ser Glu His Ser Arg Glu Pro Ser Ala Ala Gly Arg Leu Ser		
465	470	475
Asp Ser Ser Ser Glu Ala Ser Lys Leu Ser Ser Lys Ser Ala Lys Glu		
485	490	495

Arg Arg Asn Arg Arg Lys Lys Arg Lys Gln Lys Glu Gln Ser Gly Gly
500 505 510

Glu Glu Lys Asp Glu Asp Glu Phe Gln Lys Ser Glu Ser Glu Asp Ser
515 520 525

Ile Arg Arg Lys Gly Phe Arg Phe Ser Ile Glu Gly Asn Arg Leu Thr
530 535 540

Tyr Glu Lys Arg Tyr Ser Ser Pro His Gln Ser Leu Leu Ser Ile Arg
545 550 555 560

Gly Ser Leu Phe Ser Pro Arg Arg Asn Ser Arg Thr Ser Leu Phe Ser
565 570 575

Phe Arg Gly Arg Ala Lys Asp Val Gly Ser Glu Asn Asp Phe Ala Asp
580 585 590

Asp Glu His Ser Thr Phe Glu Asp Asn Glu Ser Arg Arg Asp Ser Leu
595 600 605

Phe Val Pro Arg Arg His Gly Glu Arg Arg Asn Ser Asn Leu Ser Gln
610 615 620

Thr Ser Arg Ser Ser Arg Met Leu Ala Val Phe Pro Ala Asn Gly Lys
625 630 635 640

Met His Ser Thr Val Asp Cys Asn Gly Val Val Ser Leu Val Gly Gly
645 650 655

Pro Ser Val Pro Thr Ser Pro Val Gly Gln Leu Leu Pro Glu Val Ile
660 665 670

Ile Asp Lys Pro Ala Thr Asp Asp Asn Gly Thr Thr Thr Glu Thr Glu
675 680 685

Met Arg Lys Arg Arg Ser Ser Ser Phe His Val Ser Met Asp Phe Leu
690 695 700

Glu Asp Pro Ser Gln Arg Gln Arg Ala Met Ser Ile Ala Ser Ile Leu
705 710 715 720

Thr Asn Thr Val Glu Glu Leu Glu Glu Ser Arg Gln Lys Cys Pro Pro
725 730 735

Cys Trp Tyr Lys Phe Ser Asn Ile Phe Leu Ile Trp Asp Cys Ser Pro
740 745 750

Tyr Trp Leu Lys Val Lys His Val Val Asn Leu Val Val Met Asp Pro
755 760 765

Phe Val Asp Leu Ala Ile Thr Ile Cys Ile Val Leu Asn Thr Leu Phe
770 775 780

Met Ala Met Glu His Tyr Pro Met Thr Asp His Phe Asn Asn Val Leu
785 790 795 800

Thr Val Gly Asn Leu Val Phe Thr Gly Ile Phe Thr Ala Glu Met Phe
805 810 815

Leu Lys Ile Ile Ala Met Asp Pro Tyr Tyr Tyr Phe Gln Glu Gly Trp
820 825 830

Asn Ile Phe Asp Gly Phe Ile Val Thr Leu Ser Leu Val Glu Leu Gly
835 840 845

Leu Ala Asn Val Glu Gly Leu Ser Val Leu Arg Ser Phe Arg Leu Leu
850 855 860

Arg Val Phe Lys Leu Ala Lys Ser Trp Pro Thr Leu Asn Met Leu Ile
865 870 875 880

Lys Ile Ile Gly Asn Ser Val Gly Ala Leu Gly Asn Leu Thr Leu Val
885 890 895

Leu Ala Ile Ile Val Phe Ile Phe Ala Val Val Gly Met Gln Leu Phe
900 905 910

Gly Lys Ser Tyr Lys Asp Cys Val Cys Lys Ile Ala Ser Asp Cys Gln
915 920 925

Leu Pro Arg Trp His Met Asn Asp Phe Phe His Ser Phe Leu Ile Val
930 935 940

Phe Arg Val Leu Cys Gly Glu Trp Ile Glu Thr Met Trp Asp Cys Met
945 950 955 960

Glu Val Ala Gly Gln Ala Met Cys Leu Thr Val Phe Met Met Val Met
965 970 975

Val Ile Gly Asn Leu Val Val Leu Asn Leu Phe Leu Ala Leu Leu Leu
980 985 990

Ser Ser Phe Ser Ala Asp Asn Leu Ala Ala Thr Asp Asp Asp Asn Glu
995 1000 1005

Met Asn Asn Leu Gln Ile Ala Val Asp Arg Met His Lys Gly Val
1010 1015 1020

Ala Tyr Val Lys Arg Lys Ile Tyr Glu Phe Ile Gln Gln Ser Phe
1025 1030 1035

Ile Arg Lys Gln Lys Ile Leu Asp Glu Ile Lys Pro Leu Asp Asp
1040 1045 1050

Leu Asn Asn Lys Lys Asp Ser Cys Met Ser Asn His Thr Ala Glu
1055 1060 1065

Ile Gly Lys Asp Leu Asp Tyr Leu Lys Asp Val Asn Gly Thr Thr
1070 1075 1080

Ser Gly Ile Gly Thr Gly Ser Ser Val Glu Lys Tyr Ile Ile Asp
1085 1090 1095

Glu Ser Asp Tyr Met Ser Phe Ile Asn Asn Pro Ser Leu Thr Val
1100 1105 1110

Thr Val Pro Ile Ala Val Gly Glu Ser Asp Phe Glu Asn Leu Asn
1115 1120 1125

Thr Glu Asp Phe Ser Ser Glu Ser Asp Leu Glu Glu Ser Lys Glu
1130 1135 1140

Lys Leu Asn Glu Ser Ser Ser Ser Ser Glu Gly Ser Thr Val Asp
1145 1150 1155

Ile Gly Ala Pro Val Glu Glu Gln Pro Val Val Glu Pro Glu Glu

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1175		1180		1185
Phe Lys Cys Cys Gln Ile Asn Val Glu Glu Gly Arg Gly Lys Gln				
1190		1195		1200
Trp Trp Asn Leu Arg Arg Thr Cys Phe Arg Ile Val Glu His Asn				
1205		1210		1215
Trp Phe Glu Thr Phe Ile Val Phe Met Ile Leu Leu Ser Ser Gly				
1220		1225		1230
Ala Leu Ala Phe Glu Asp Ile Tyr Ile Asp Gln Arg Lys Thr Ile				
1235		1240		1245
Lys Thr Met Leu Glu Tyr Ala Asp Lys Val Phe Thr Tyr Ile Phe				
1250		1255		1260
Ile Leu Glu Met Leu Leu Lys Trp Val Ala Tyr Gly Tyr Gln Thr				
1265		1270		1275
Tyr Phe Thr Asn Ala Trp Cys Trp Leu Asp Phe Leu Ile Val Asp				
1280		1285		1290
Val Ser Leu Val Ser Leu Thr Ala Asn Ala Leu Gly Tyr Ser Glu				
1295		1300		1305
Leu Gly Ala Ile Lys Ser Leu Arg Thr Leu Arg Ala Leu Arg Pro				
1310		1315		1320
Leu Arg Ala Leu Ser Arg Phe Glu Gly Met Arg Val Val Val Asn				
1325		1330		1335
Ala Leu Leu Gly Ala Ile Pro Ser Ile Met Asn Val Leu Leu Val				
1340		1345		1350
Cys Leu Ile Phe Trp Leu Ile Phe Ser Ile Met Gly Val Asn Leu				
1355		1360		1365
Phe Ala Gly Lys Phe Tyr His Cys Ile Asn Thr Thr Thr Gly Asp				
1370		1375		1380

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1400						1405					1410			
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1415						1420					1425			
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1430						1435					1440			
Ser	Arg	Asn	Val	Glu	Leu	Gln	Pro	Lys	Tyr	Glu	Glu	Ser	Leu	Tyr
1445						1450					1455			
Met	Tyr	Leu	Tyr	Phe	Val	Ile	Phe	Ile	Ile	Phe	Gly	Ser	Phe	Phe
1460						1465					1470			
Thr	Leu	Asn	Leu	Phe	Ile	Gly	Val	Ile	Ile	Asp	Asn	Phe	Asn	Gln
1475						1480					1485			
Gln	Lys	Lys	Lys	Phe	Gly	Gly	Gln	Asp	Ile	Phe	Met	Thr	Glu	Glu
1490						1495					1500			
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1505						1510					1515			
Pro	Gln	Lys	Pro	Ile	Pro	Arg	Pro	Gly	Asn	Lys	Phe	Gln	Gly	Met
1520						1525					1530			
Val	Phe	Asp	Phe	Val	Thr	Arg	Gln	Val	Phe	Asp	Ile	Ser	Ile	Met
1535						1540					1545			
Ile	Leu	Ile	Cys	Leu	Asn	Met	Val	Thr	Met	Met	Val	Glu	Thr	Asp
1550						1555					1560			
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1565						1570					1575			
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1580						1585					1590			

Ser	Leu	Arg	His	Tyr	Tyr	Phe	Thr	Ile	Gly	Trp	Asn	Ile	Phe	Asp
1595						1600					1605			
Phe	Val	Val	Val	Ile	Leu	Ser	Ile	Val	Gly	Met	Phe	Leu	Ala	Glu
1610						1615					1620			
Leu	Ile	Glu	Lys	Tyr	Phe	Val	Ser	Pro	Thr	Leu	Phe	Arg	Val	Ile
1625						1630					1635			
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1640						1645					1650			
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1655						1660					1665			
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1670						1675					1680			
Tyr	Ala	Ile	Phe	Gly	Met	Ser	Asn	Phe	Ala	Tyr	Val	Lys	Arg	Glu
1685						1690					1695			
Val	Gly	Ile	Asp	Asp	Met	Phe	Asn	Phe	Glu	Thr	Phe	Gly	Asn	Ser
1700						1705					1710			
Met	Ile	Cys	Leu	Phe	Gln	Ile	Thr	Thr	Ser	Ala	Gly	Trp	Asp	Gly
1715						1720					1725			
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1730						1735					1740			
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1745						1750					1755			
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1760						1765					1770			
Phe	Leu	Val	Val	Val	Asn	Met	Tyr	Ile	Ala	Val	Ile	Leu	Glu	Asn
1775						1780					1785			
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1790						1795					1800			

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1805						1810					1815			
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1820						1825					1830			
Ala	Leu	Glu	Pro	Pro	Leu	Asn	Leu	Pro	Gln	Pro	Asn	Lys	Leu	Gln
1835						1840					1845			
Leu	Ile	Ala	Met	Asp	Leu	Pro	Met	Val	Ser	Gly	Asp	Arg	Ile	His
1850						1855					1860			
Cys	Leu	Asp	Ile	Leu	Phe	Ala	Phe	Thr	Lys	Arg	Val	Leu	Gly	Glu
1865						1870					1875			
Ser	Gly	Glu	Met	Asp	Ala	Leu	Arg	Ile	Gln	Met	Glu	Glu	Arg	Phe
1880						1885					1890			
Met	Ala	Ser	Asn	Pro	Ser	Lys	Val	Ser	Tyr	Gln	Pro	Ile	Thr	Thr
1895						1900					1905			
Thr	Leu	Lys	Arg	Lys	Gln	Glu	Glu	Val	Ser	Ala	Val	Ile	Ile	Gln
1910						1915					1920			
Arg	Ala	Tyr	Arg	Arg	His	Leu	Leu	Lys	Arg	Thr	Val	Lys	Gln	Ala
1925						1930					1935			
Ser	Phe	Thr	Tyr	Asn	Lys	Asn	Lys	Ile	Lys	Gly	Gly	Ala	Asn	Leu
1940						1945					1950			
Leu	Ile	Lys	Glu	Asp	Met	Ile	Ile	Asp	Arg	Ile	Asn	Glu	Asn	Ser
1955						1960					1965			
Ile	Thr	Glu	Lys	Thr	Asp	Leu	Thr	Met	Ser	Thr	Ala	Ala	Cys	Pro
1970						1975					1980			
Pro	Ser	Tyr	Asp	Arg	Val	Thr	Lys	Pro	Ile	Val	Glu	Lys	His	Glu
1985						1990					1995			
Gln	Glu	Gly	Lys	Asp	Glu	Lys	Ala	Lys	Gly	Lys				
2000						2005								

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<213> Homo sapiens

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gcaaggagaa gcaatactgg gagattacag agaagaaagg aaaaaaggct gagagaaaag 180
aggttgagga agaaatcata aatctggatt gtgagaaagt gtttaatat tagccactag 240
atggcgatgt aatgtaagggt gctgtcctga cttttttttt ttttttttga aacaagctat 300
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tgccccagtg agactgcagc ccttgtaa atcttgacac cttttgcaag aaggaatctg 480
aacaattgca actgaaggca cattgttatc atctcgtctt tgggtgatgc tgttcctcac 540
tgcagatgga taattttcct tttaatcagg taagccatct aattgtttca tcttgatttt 600
aagtttatcc attccagtta ttcctttgga aaaagagtcc atggaaattc agtttgggca 660
gagcaggaag tccatttttg tatgtgtatt cagaccaact gtccccctcc tccctctcct 720
cctcttcttg tccccctccc cgcgcctcc tctctcaacc ttccatgaac tgaaatcagg 780
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<211> 483
<212> DNA
<213> Homo sapiens

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caggacctga cagcttcaac ttcttcacca gagaatctct tgcggctatt gaaagacgca 180
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cctccagaga tgggtgcaga gcccctggag gacctggacc cctactatat caataagaaa 360
gtgagtgttt tttttatcag gcatattttt gctgctaatt gcctactgca ttccttggac 420
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483

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<211> 497
<212> DNA
<213> Homo sapiens

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agtttaagtg gtttatactt tcatacttct atgttggtgtt cctgtcttac agacttttat 180
agtattgaat aaaggaagg ccatcttccg gttcagtgcc acctctgccc tgtacatttt 240
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aaattaagtt gggaaatgtc catattatat aggtttcatc actctcattt tgcattcttg 420
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<210> 8
<211> 501
<212> DNA
<213> Homo sapiens

<400> 8
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tatccctgaa ttttggttaa gctgcagttt gggcttttca atgttagctt tttgtaatat 180
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gattytgaaa ctgtgtctta atgtagtctt aaaataaaac tgaagagcat tttattaaag 420
tcattcctag acaaaattac gcagcaagag gacaatgctc attggccctc aggctgctg 480
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<210> 9
<211> 563
<212> DNA

<213> Homo sapiens

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aaaatccatc tgcttagttt tcttttttag tatttatcta ttccactgat ggagtgataa	180
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<211> 253

<212> DNA

<213> Homo sapiens

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agtcttgaga gctttgaaaa ctatttcggt aattccagggt aagaagtgat tagagtaaag	180
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<210> 11

<211> 340

<212> DNA

<213> Homo sapiens

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ggcaatgtct cggcattgag aacattcaga gttctccgag cattgaagac gatttcagtc	180
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<212> DNA
<213> Homo sapiens

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<211> 266
<212> DNA
<213> Homo sapiens

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<211> 604
<212> DNA
<213> Homo sapiens

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<210> 15
 <211> 378
 <212> DNA
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<210> 16
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 <212> DNA
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aactgaatca accactgttg tggttatattt aaacccatcc cttcttcaca tagttatgca	780
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 <212> DNA
 <213> Homo sapiens

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tgcaatggtg tgggttcctt ggttggtgga ccttcagttc ctacatcgcc tgttgacag	660
cttctgccag aggtgataat agataagcca gctactgatg acaatgtaag gaagtytta	720
atagttcagg catggctggc tcaactattgc tgcaccagcc agtgtgtcta cagaacggca	780
accttgagaa tgattcctgg ttggtcacgc tgtgaatgca cctgcatctt gtaatatctt	840
tgatagacta accaactaaa acttaaaacc ttagcagtcg cctgcacaaa cctgaatgca	900
tttacttatt aaaagtgcta aggattgatt agacacaata attactgcct ccagttggag	960
gattt	965

<210> 18
 <211> 641

<212> DNA
<213> Homo sapiens

<400> 18
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atgatacaat aagtcagaaa tatctgccat caccaattga atatgaaagt gcatgatgca 180
tgtgtttcat gaaattcact gtgtcaccat ttggttgttt gcttgtcata ttgctcaaat 240
taattgttta atgcattagc attttttttt acagggaaca accactgaaa ctgaaatgag 300
aaagagaagg tcaagttctt tccacgtttc catggacttt ctagaagatc cttcccaaag 360
gcaacgagca atgagtatag ccagcattct aacaaatata gtagaagggt ggtaacaaat 420
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ttgtgagttg ggaatagtgc attctaataa aaagacagtc taattcaaga gctgttattt 540
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<210> 19
<211> 818
<212> DNA
<213> Homo sapiens

<400> 19
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ataaccttgg gaggtttaga gtaaaactgta atttttttta caagtacaaa aaaggggtgc 180
tctgtaacaa aaatgtgttg attactgaaa ataagtttag tggatatgaa ataaatgtgt 240
gtgtataaag tawacctttt ggtgggtctt tttttttttt ttcttaatct agaacttgaa 300
gaatccaggc agaaatgccc accctgttgg tataaatttt ccaacatatt cttaatctgg 360
gactgttctc catattgggt aaaagtgaac catgttgtca acctgggtgt gatggacca 420
tttgttgacc tggccatcac catctgtatt gtcttaataa ctcttttcat ggccatggag 480
cactatccaa tgacggacca tttcaataat gtgcttacag taggaaactt ggtaagcata 540
ttggaaggta aatgtgttta gtcttcaaat tttctgcttg aaaaactgtt tacatttaat 600
tgtgtatagc agtctttcaa ccaccttcca tgcttcttgg cccctgcaaa atcgcaatta 660
tatttagctg gctatactct acttttttgc caaaaataat cacccttaat gtgctcacia 720

aaactgagaa aggcataaggc ctacagcact acttgaaaag tcaacagcaa tatttataat	780
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<210> 20
 <211> 645
 <212> DNA
 <213> Homo sapiens

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ttatctactt cgcgtttcca caaggataaa attaaataat gtatatgawa gtctttcatc	120
aactacaaat tgccatacaa atttaagtta gtaatagaat cattgtggga aaatagcata	180
agcattatgt tctaagagca aatcttatgt catgtatgtt attatctggt ggaattagat	240
taattttgtt ttgatcttag gttttcactg ggatctttac agcagaaatg tttctgaaaa	300
ttattgccat ggatccttac tattatttcc aagaaggctg gaatatcttt gacggtttta	360
ttgtgacgct tagcctggta gaacttgga cgcgaatgt ggaagggtta tctgttctcc	420
gttcatttcg attggtaaaa aaaaaaaaaa aaggaaccaa attcaaaaac ctttctaaca	480
ttcagggttc ttgcatagca ttgtcatagt ttttttgcca cacaaccatt aggcattgta	540
agtttttctg taacatttgc attgtcaaaa acttttctta catgggaata attctcaatt	600
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<210> 21
 <211> 829
 <212> DNA
 <213> Homo sapiens

<400> 21	
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aaatatatat taatctttca tttccagct gcgagatttc aagttggcaa aatcttgcc	120
aacgttaaat atgctaataa agatcatcg caattccgtg ggggctctgg gaaatttaac	180
cctcgtcttg gccatcatcg tcttcatttt tgccgtggtc ggcattgcagc tctttggtaa	240
aagctacaaa gattgtgtct gcaagatcgc cagtgattgt caactccac gctggcacat	300
gaatgacttc ttccactcck hctgattgt gttccgcgtg ctgtgtgggg agtggataga	360
gaccatgtgg gactgtatgg aggttgctgg tcaagccatg tgccttactg tcttcatgat	420
ggtcatggtg attggaaacc tagcggatg taccactta agatatgcat tttggaaata	480
caccagcatg gcacatgtat acatatgtaa ctaacctgca cattgtgcac atgtacccta	540

aaacttaaag tataataaaa aaaaagagta taatttaatg gtgactgttt tgtcaaaaag	600
aaaaacaaac tatgattatt ggttttaaaag tccattacct tggatatatt atcactttta	660
caacacagca atatabcagt gccctgcat tttttatacc aaattctatt ttgtcagtca	720
ctttatcaca ttttttatgt gaattacaat agagtatcat attgagatga gcctaaaagg	780
atgtgctggg accattttat aaattcagag ccaaggaaga gagaagtct	829

<210> 22
 <211> 909
 <212> DNA
 <213> Homo sapiens

<400> 22	
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acaaaacctt agattagctc attcaatttc actttacgaa tgggagaact tgagagcaac	120
agaaatcatg tctttgtcca aggatgtgct attgagccag tcacaaattc agatcaccca	180
tcttctaadc actatgctgt ggtgtttcct tctcatcaag ttttagaact tagagttttt	240
tccacactta aaagaaagaa taagtgattg taatctgctc ttccctacat tgggtgtaaaa	300
ttataatcat gtttttgttg tttttaaggc cctgaatctc tttctggcct tgcttctgag	360
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tctaaacaac aagaaagaca gttgtatgtc caatcataca gcagaaattg ggaaagatct	600
tgactatctt aaagatgtaa atggaactac aagtgggata ggaactggca gcagtgttga	660
aaaatacatt attgatgaaa gtgattacat gtcattcata aacaaccca gtcttactgt	720
gactgtacca attgctgtag gagaatctga ctttgaaaat ttaaacacgg aagacttttag	780
tagtgaatcg gatctggaag aaagcaaaga ggtaagattc tatagggtgtg ggtaggtatg	840
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tacttaaga	909

<210> 23
 <211> 516
 <212> DNA
 <213> Homo sapiens

<220>

<221> misc_feature
 <222> (393)..(393)
 <223> n = a, c, t or g

<220>
 <221> misc_feature
 <222> (415)..(451)
 <223> N = a, c, t or g

<220>
 <221> misc_feature
 <222> (454)..(454)
 <223> N = a, c, t or g

<220>
 <221> misc_feature
 <222> (513)..(513)
 <223> n = a, c, t or g

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 aaattcatag taataatcct tcttggcagg caacttatta ccaaaattaa ggactttact 180
 ttctatgtcc atctcactta cagaaactga atgaaagcag tagctcatca gaaggtagca 240
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 aacccgaagc ttgtttcact gaaggtaaag aaaagaatcc taatgttaat ctttcatttg 360
 gagtgcagct tatttagctg ttggtcagct aanataaatc acatataata aaatngcact 420
 ttgtaataga tataattcaa tcacctctaa tatnttgaca gacaaaaaaaa cttaaagtct 480
 agtgtcatgc tttgattata tctgccaat atntgg 516

<210> 24
 <211> 640
 <212> DNA
 <213> Homo sapiens

<400> 24
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 actctaggct tagagagcta tgctagcaag acagagatga gcatagtaat aaaaagacaa 120
 gacaaggaca ttgctaaagg atattatgga agcagagaca ctttatctac ttttatttca 180
 acactttctg caggctgtgt acaaagattc aagtgttgct aaatcaatgt ggaagaaggc 240

agaggaaaac aatgggtggaa cctgagaagg acgtgtttcc gaatagttga acataactgg	300
tttgagacct tcattgtttt catgattctc cttagtagtg gtgctctggg gagtgagatt	360
aagaaaaggt gatacagcac taatttttag aacactctaa tactgatgac ttattaatcc	420
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gatttactct ataactctat atttctggat taacttttac tatgtatgta aatataattt	540
taagaagcta atcattaatt tttgcttact attaaatagc ccagaaagtg tagcccttca	600
gcttattcat taacaccaaa ggatgtgaat attcaattac	640

<210> 25
 <211> 607
 <212> DNA
 <213> Homo sapiens

<400> 25	
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ttgcgaggaa aaaaaaaag taacagtaac tactgtttct ctgccctcct attccaatga	180
aatgtcatat gcatatgatt aattttttta atagcttatg gagtataatt atttttgaaa	240
gctaataatg tgtaacattt tctttatagg catttgaaga tatatatatt gaycagcgaa	300
agacgattaa gacgatgttg gaatatgctg acaaggtttt cacttacatt ttcattctgg	360
aaatgcttct aaaatgggtg gcatatggct atcaaacata tttcaccaat gcctggagtt	420
ggctggactt cttaattggt gatgtaggta tcgttcatat ttttgtctct gttcaaggta	480
gcttgtctta tttatattca aattctacaa tagtgagtct cagaccacta tgttatgttg	540
acagactata atarccacta aacgcatata tgcaatgaga gtgtcatttc tggaagacaa	600
gggctaa	607

<210> 26
 <211> 336
 <212> DNA
 <213> Homo sapiens

<400> 26	
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attgttatta ttcytgtgtg tgcaggtttc attggtcagt ttaacagcaa atgccttggg	120
ttactcagaa cttggagcct atcaatctct caggacacta agagctctga gacctctaag	180
agccttatct cgatttgaag ggatgagggt aagaaaaatg aaagaacctg aagtattgta	240

tatagccaaa attaaactaa attaaattta gaaaaaagga aaaatgtatg catgcaaaag	300
gaatggcaaa ttcttgcaaa atgctcttta ttgttt	336

<210> 27
 <211> 677
 <212> DNA
 <213> Homo sapiens

<400> 27	
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tttaagatttt ttttgaacct tgctttttaca taccctagaa taaatagcat tgatagaaaa	120
aaagaatgga aagaccagag attactaggg gaattttttt tctttattaa cagataagaa	180
ttctgacttt tctttttttc catttgtgta ttaggtgggt gtgaatgcc ttttaggagc	240
aattccatcc atcatgaatg tgcttctggt ttgtcttata ttctggctaa ttttcagcat	300
catgggcgta aatttgtttg ctggcaaatt ctaccactgt attaacacca caactgggtga	360
caggtttgac atcgaagacg tgaataatca tactgattgc ctaaaactaa tagaaagaaa	420
tgagactgct cgatggaaaa atgtgaaagt aaactttgat aatgtaggat ttgggtatct	480
ctctttgctt caagttgtaa gtgaacacta ttttctctga atatttttat tgtttggaat	540
aataacaaaa taatgacata catctattat ttagttccta agaaaaagta tatatttctt	600
tctatttaaa aaatttcaat ttgttagtac aagtttatga gccagatgg gtgaaaactt	660
tattacatgt aaggact	677

<210> 28
 <211> 457
 <212> DNA
 <213> Homo sapiens

<400> 28	
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attatatcag taagaatatt tattaacat caggtctaaa ttattttttac tccaaagtaa	180
aacatgcatg tccttcttaa taggcacat tcaaaggatg gatggatata atgtatgcag	240
cagttgattc cagaaatgta agtattcctt gtattctaag tctttttaca atattgatca	300
ggtggtaaaa ttaatcgaat aaagcataaa cgaccaaag aaatgattct atcttgattt	360
aaaatatttg ggaaaaagtg tgacaggtaa atattcaagc atagcaatgt ttatcagaaa	420

gatcttacta agataattca acacatgaat tatttttg

457

<210> 29
<211> 379
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (43)..(43)
<223> n = a, c, t or g

<400> 29
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tggtaggtgg aactccagcc taagtatgaa gaaagtctgt acatgtatct ttactttggt 180
attttcatca tctttgggtc cttcttcacc ttgaacctgt ttattggtgt catcatagat 240
aatttcaacc agcagaaaaa gaagataagt atttctaata ttttctctcc cactgagata 300
gaaaaattat tccttgaggt gttttctctg ccaaagaggt acttgaattt agaacaaatg 360
ggagtatata ttataactg 379

<210> 30
<211> 393
<212> DNA
<213> Homo sapiens

<400> 30
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gccatccatt ttctatttta acattgaaaa aaatgtacaa aaggacacag ttttaaccag 180
tttgattttt cttttctata ctttgagggt caagacatct ttatgacaga agaacagaag 240
aaatactata atgcaatgaa aaaattagga tcgaaaaaac cgcaaaagcc tatacctcga 300
ccaggagtaa gaagtatcaa atgatatggg ggaaaataca aaaacaaaaa ctgcatgctt 360
gtctcacaaa aaagaaaagt aagctaaaca ttt 393

<210> 31
<211> 539
<212> DNA
<213> Homo sapiens

<400> 31

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aactcctttg ttgttaaaag catttctatt tctctacaga acaaatttca aggaatgggc	180
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cgcacatc tgggtgtcat tgtgctatct actggagagt gtgtactgaa actcatctct	360
ctacgccatt attattttac cattggatgg aatatttttg attttgtggg tgtcattctc	420
tccattgtag gtaagaaata tttaaagttc ttaaattcag ttaaataaaa gtgaaagctg	480
aaacaatcaa gattagattc aagatcatcc cagcaatcag agataatcac tgtaaatat	539

<210> 32
 <211> 3403
 <212> DNA
 <213> Homo sapiens

<400> 32	
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attctcattg tttattcata ggtatgtttc ttgccgagct gatagaaaag tatttcgtgt	180
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cctgcacttt gtttagccat cttcggctct cagcaagggt gacactgtat atgttaatga	2280
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atTTTTTTTT ccacaaaaac agagtagtca acttatatag tcaattacat caggacattt	3240
tgtgtttctt acagaagcaa accataggct cctcttttcc ttaaaactac ttagataaac	3300
tgtattcgtg aactgcatgc tggaaaatgc tactattatg ctaaataatg ctaaccaaca	3360
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<210> 33
 <211> 8349
 <212> DNA
 <213> Homo sapiens

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ctggtaccgc caggacctga cagcttccgc ttctttacca gggaaatccct tgctgctatt	180
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		20						25					30		

Lys	Ala	Lys	Arg	Pro	Lys	Gln	Glu	Arg	Lys	Asp	Glu	Asp	Asp	Glu	Asn
		35					40					45			

Gly	Pro	Lys	Pro	Asn	Ser	Asp	Leu	Glu	Ala	Gly	Lys	Ser	Leu	Pro	Phe
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Ile	Tyr	Gly	Asp	Ile	Pro	Pro	Glu	Met	Val	Ser	Val	Pro	Leu	Glu	Asp
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Leu Asp Pro Tyr Tyr Ile Asn Lys Lys Thr Phe Ile Val Leu Asn Lys
85 90 95

Gly Lys Ala Ile Ser Arg Phe Ser Ala Thr Pro Ala Leu Tyr Ile Leu
100 105 110

Thr Pro Phe Asn Pro Ile Arg Lys Leu Ala Ile Lys Ile Leu Val His
115 120 125

Ser Leu Phe Asn Met Leu Ile Met Cys Thr Ile Leu Thr Asn Cys Val
130 135 140

Phe Met Thr Met Ser Asn Pro Pro Asp Trp Thr Lys Asn Val Glu Tyr
145 150 155 160

Thr Phe Thr Gly Ile Tyr Thr Phe Glu Ser Leu Ile Lys Ile Leu Ala
165 170 175

Arg Gly Phe Cys Leu Glu Asp Phe Thr Phe Leu Arg Asp Pro Trp Asn
180 185 190

Trp Leu Asp Phe Thr Val Ile Thr Phe Ala Tyr Val Thr Glu Phe Val
195 200 205

Asp Leu Gly Asn Val Ser Ala Leu Arg Thr Phe Arg Val Leu Arg Ala
210 215 220

Leu Lys Thr Ile Ser Val Ile Pro Gly Leu Lys Thr Ile Val Gly Ala
225 230 235 240

Leu Ile Gln Ser Val Lys Lys Leu Ser Asp Val Met Ile Leu Thr Val
245 250 255

Phe Cys Leu Ser Val Phe Ala Leu Ile Gly Leu Gln Leu Phe Met Gly
260 265 270

Asn Leu Arg Asn Lys Cys Leu Gln Trp Pro Pro Asp Asn Ser Ser Phe
275 280 285

Glu Ile Asn Ile Thr Ser Phe Phe Asn Asn Ser Leu Asp Gly Asn Gly
290 295 300

Thr Thr Phe Asn Arg Thr Val Ser Ile Phe Asn Trp Asp Glu Tyr Ile

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Glu Asp Lys Ser His Phe Tyr Phe Leu Glu Gly Gln Asn Asp Ala Leu						
	325			330		335
Leu Cys Gly Asn Ser Ser Asp Ala Gly Gln Cys Pro Glu Gly Tyr Ile						
	340			345		350
Cys Val Lys Ala Gly Arg Asn Pro Asn Tyr Gly Tyr Thr Ser Phe Asp						
	355			360		365
Thr Phe Ser Trp Ala Phe Leu Ser Leu Phe Arg Leu Met Thr Gln Asp						
	370			375		380
Phe Trp Glu Asn Leu Tyr Gln Leu Thr Leu Arg Ala Ala Gly Lys Thr						
	385			390		400
Tyr Met Ile Phe Phe Val Leu Val Ile Phe Leu Gly Ser Phe Tyr Leu						
		405		410		415
Ile Asn Leu Ile Leu Ala Val Val Ala Met Ala Tyr Glu Glu Gln Asn						
	420			425		430
Gln Ala Thr Leu Glu Glu Ala Glu Gln Lys Glu Ala Glu Phe Gln Gln						
	435			440		445
Met Leu Glu Gln Leu Lys Lys Gln Gln Glu Glu Ala Gln Ala Ala Ala						
	450			455		460
Ala Ala Ala Ser Ala Glu Ser Arg Asp Phe Ser Gly Ala Gly Gly Ile						
	465			470		475
						480
Gly Val Phe Ser Glu Ser Ser Ser Val Ala Ser Lys Leu Ser Ser Lys						
		485		490		495
Ser Glu Lys Glu Leu Lys Asn Arg Arg Lys Lys Lys Lys Gln Lys Glu						
	500			505		510
Gln Ser Gly Glu Glu Glu Lys Asn Asp Arg Val Leu Lys Ser Glu Ser						
	515			520		525
Glu Asp Ser Ile Arg Arg Lys Gly Phe Arg Phe Ser Leu Glu Gly Ser						
	530			535		540

Arg	Leu	Thr	Tyr	Glu	Lys	Arg	Phe	Ser	Ser	Pro	His	Gln	Ser	Leu	Leu	545	550	555	560
Ser	Ile	Arg	Gly	Ser	Leu	Phe	Ser	Pro	Arg	Arg	Asn	Ser	Arg	Ala	Ser	565	570	575	
Leu	Phe	Ser	Phe	Arg	Gly	Arg	Ala	Lys	Asp	Ile	Gly	Ser	Glu	Asn	Asp	580	585	590	
Phe	Ala	Asp	Asp	Glu	His	Ser	Thr	Phe	Glu	Asp	Asn	Asp	Ser	Arg	Arg	595	600	605	
Asp	Ser	Leu	Phe	Val	Pro	His	Arg	His	Gly	Glu	Arg	Arg	His	Ser	Asn	610	615	620	
Val	Ser	Gln	Ala	Ser	Arg	Ala	Ser	Arg	Val	Leu	Pro	Ile	Leu	Pro	Met	625	630	635	640
Asn	Gly	Lys	Met	His	Ser	Ala	Val	Asp	Cys	Asn	Gly	Val	Val	Ser	Leu	645	650	655	
Val	Gly	Gly	Pro	Ser	Thr	Leu	Thr	Ser	Ala	Gly	Gln	Leu	Leu	Pro	Glu	660	665	670	
Gly	Thr	Thr	Thr	Glu	Thr	Glu	Ile	Arg	Lys	Arg	Arg	Ser	Ser	Ser	Tyr	675	680	685	
His	Val	Ser	Met	Asp	Leu	Leu	Glu	Asp	Pro	Thr	Ser	Arg	Gln	Arg	Ala	690	695	700	
Met	Ser	Ile	Ala	Ser	Ile	Leu	Thr	Asn	Thr	Met	Glu	Glu	Leu	Glu	Glu	705	710	715	720
Ser	Arg	Gln	Lys	Cys	Pro	Pro	Cys	Trp	Tyr	Lys	Phe	Ala	Asn	Met	Cys	725	730	735	
Leu	Ile	Trp	Asp	Cys	Cys	Lys	Pro	Trp	Leu	Lys	Val	Lys	His	Leu	Val	740	745	750	
Asn	Leu	Val	Val	Met	Asp	Pro	Phe	Val	Asp	Leu	Ala	Ile	Thr	Ile	Cys	755	760	765	

Ile Val Leu Asn Thr Leu Phe Met Ala Met Glu His Tyr Pro Met Thr
770 775 780

Glu Gln Phe Ser Ser Val Leu Ser Val Gly Asn Leu Val Phe Thr Gly
785 790 795 800

Ile Phe Thr Ala Glu Met Phe Leu Lys Ile Ile Ala Met Asp Pro Tyr
805 810 815

Tyr Tyr Phe Gln Glu Gly Trp Asn Ile Phe Asp Gly Phe Ile Val Ser
820 825 830

Leu Ser Leu Met Glu Leu Gly Leu Ala Asn Val Glu Gly Leu Ser Val
835 840 845

Leu Arg Ser Phe Arg Leu Leu Arg Val Phe Lys Leu Ala Lys Ser Trp
850 855 860

Pro Thr Leu Asn Met Leu Ile Lys Ile Ile Gly Asn Ser Val Gly Ala
865 870 875 880

Leu Gly Asn Leu Thr Leu Val Leu Ala Ile Ile Val Phe Ile Phe Ala
885 890 895

Val Val Gly Met Gln Leu Phe Gly Lys Ser Tyr Lys Glu Cys Val Cys
900 905 910

Lys Ile Ser Asn Asp Cys Glu Leu Pro Arg Trp His Met His Asp Phe
915 920 925

Phe His Ser Phe Leu Ile Val Phe Arg Val Leu Cys Gly Glu Trp Ile
930 935 940

Glu Thr Met Trp Asp Cys Met Glu Val Ala Gly Gln Thr Met Cys Leu
945 950 955 960

Thr Val Phe Met Met Val Met Val Ile Gly Asn Leu Val Val Leu Asn
965 970 975

Leu Phe Leu Ala Leu Leu Leu Ser Ser Phe Ser Ser Asp Asn Leu Ala
980 985 990

Ala Thr Asp Asp Asp Asn Glu Met Asn Asn Leu Gln Ile Ala Val Gly
995 1000 1005

Arg Met Gln Lys Gly Ile Asp Phe Val Lys Arg Lys Ile Arg Glu
1010 1015 1020

Phe Ile Gln Lys Ala Phe Val Arg Lys Gln Lys Ala Leu Asp Glu
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Ile Lys Pro Leu Glu Asp Leu Asn Asn Lys Lys Asp Ser Cys Ile
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Ser Asn His Thr Thr Ile Glu Ile Gly Lys Asp Leu Asn Tyr Leu
1055 1060 1065

Lys Asp Gly Asn Gly Thr Thr Ser Gly Ile Gly Ser Ser Val Glu
1070 1075 1080

Lys Tyr Val Val Asp Glu Ser Asp Tyr Met Ser Phe Ile Asn Asn
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Pro Ser Leu Thr Val Thr Val Pro Ile Ala Val Gly Glu Ser Asp
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Glu Glu Ser Lys Glu Lys Leu Asn Ala Thr Ser Ser Ser Glu Gly
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Ser Thr Val Asp Ile Gly Ala Pro Ala Glu Gly Glu Gln Pro Glu
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Val Glu Pro Glu Glu Ser Leu Glu Pro Glu Ala Cys Phe Thr Glu
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Asp Cys Val Arg Lys Phe Lys Cys Cys Gln Ile Ser Ile Glu Glu
1175 1180 1185

Gly Lys Gly Lys Leu Trp Trp Asn Leu Arg Lys Thr Cys Tyr Lys
1190 1195 1200

Ile Val Glu His Asn Trp Phe Glu Thr Phe Ile Val Phe Met Ile

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Gln Arg Lys Thr Ile Lys Thr Met Leu Glu Tyr Ala Asp Lys Val				
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Phe Thr Tyr Ile Phe Ile Leu Glu Met Leu Leu Lys Trp Val Ala				
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Tyr Gly Phe Gln Val Tyr Phe Thr Asn Ala Trp Cys Trp Leu Asp				
1265		1270		1275
Phe Leu Ile Val Asp Val Ser Leu Val Ser Leu Thr Ala Asn Ala				
1280		1285		1290
Leu Gly Tyr Ser Glu Leu Gly Ala Ile Lys Ser Leu Arg Thr Leu				
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Arg Ala Leu Arg Pro Leu Arg Ala Leu Ser Arg Phe Glu Gly Met				
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Arg Ala Val Val Asn Ala Leu Leu Gly Ala Ile Pro Ser Ile Met				
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Asn Val Leu Leu Val Cys Leu Ile Phe Trp Leu Ile Phe Ser Ile				
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Tyr Thr Thr Gly Glu Met Phe Asp Val Ser Val Val Asn Asn Tyr				
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Ser Glu Cys Lys Ala Leu Ile Glu Ser Asn Gln Thr Ala Arg Trp				
1385		1390		1395
Lys Asn Val Lys Val Asn Phe Asp Asn Val Gly Leu Gly Tyr Leu				
1400		1405		1410
Ser Leu Leu Gln Val Ala Thr Phe Lys Gly Trp Met Asp Ile Met				
1415		1420		1425

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Phe	Gly	Ser	Phe	Phe	Thr	Leu	Asn	Leu	Phe	Ile	Gly	Val	Ile	Ile
1460						1465					1470			
Asp	Asn	Phe	Asn	Gln	Gln	Lys	Lys	Lys	Phe	Gly	Gly	Gln	Asp	Ile
1475						1480					1485			
Phe	Met	Thr	Glu	Glu	Gln	Lys	Lys	Tyr	Tyr	Asn	Ala	Met	Lys	Lys
1490						1495					1500			
Leu	Gly	Ser	Lys	Lys	Pro	Gln	Lys	Pro	Ile	Pro	Arg	Pro	Ala	Asn
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Asp	Ile	Ser	Ile	Met	Ile	Leu	Ile	Cys	Leu	Asn	Met	Val	Thr	Met
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Val	Leu	Lys	Leu	Ile	Ser	Leu	Arg	Tyr	Tyr	Tyr	Phe	Thr	Ile	Gly
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Met	Phe	Leu	Ala	Glu	Leu	Ile	Glu	Lys	Tyr	Phe	Val	Ser	Pro	Thr
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Leu	Phe	Arg	Val	Ile	Arg	Leu	Ala	Arg	Ile	Gly	Arg	Ile	Leu	Arg
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Pro	Asp	Cys	Asp	Pro	Asp	Lys	Asp	His	Pro	Gly	Ser	Ser	Val	Lys
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Gly	Asp	Cys	Gly	Asn	Pro	Ser	Val	Gly	Ile	Phe	Phe	Phe	Val	Ser
1745						1750					1755			
Tyr	Ile	Ile	Ile	Ser	Phe	Leu	Val	Val	Val	Asn	Met	Tyr	Ile	Ala
1760						1765					1770			
Val	Ile	Leu	Glu	Asn	Phe	Ser	Val	Ala	Thr	Glu	Glu	Ser	Ala	Glu
1775						1780					1785			
Pro	Leu	Ser	Glu	Asp	Asp	Phe	Glu	Met	Phe	Tyr	Glu	Val	Trp	Glu
1790						1795					1800			
Lys	Phe	Asp	Pro	Asp	Ala	Thr	Gln	Phe	Ile	Glu	Phe	Ala	Lys	Leu
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Gly Asp Arg Ile His Cys Leu Asp Ile Leu Phe Ala Phe Thr Lys
1850 1855 1860

Arg Val Leu Gly Glu Ser Gly Glu Met Asp Ala Leu Arg Ile Gln
1865 1870 1875

Met Glu Glu Arg Phe Met Ala Ser Asn Pro Ser Lys Val Ser Tyr
1880 1885 1890

Glu Pro Ile Thr Thr Thr Leu Lys Arg Lys Gln Glu Glu Val Ser
1895 1900 1905

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1910 1915 1920

Lys Val Lys Lys Val Ser Ser Ile Tyr Lys Lys Asp Lys Gly Lys
1925 1930 1935

Glu Cys Asp Gly Thr Pro Ile Lys Glu Asp Thr Leu Ile Asp Lys
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1955 1960 1965

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Asp Ile Arg Glu Ser Lys Lys
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35 40 45

Gly Pro Lys Pro Asn Ser Asp Leu Glu Ala Gly Lys Ser Leu Pro Phe
50 55 60

Ile Tyr Gly Asp Ile Pro Pro Glu Met Val Ser Val Pro Leu Glu Asp
65 70 75 80

Leu Asp Pro Tyr Tyr Ile Asn Lys Lys Thr Phe Ile Val Leu Asn Lys
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Gly Lys Ala Ile Ser Arg Phe Ser Ala Thr Pro Ala Leu Tyr Ile Leu
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Thr Pro Phe Asn Pro Ile Arg Lys Leu Ala Ile Lys Ile Leu Val His
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Ser Leu Phe Asn Met Leu Ile Met Cys Thr Ile Leu Thr Asn Cys Val
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Phe Met Thr Met Ser Asn Pro Pro Asp Trp Thr Lys Asn Val Glu Tyr
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Arg Gly Phe Cys Leu Glu Asp Phe Thr Phe Leu Arg Asp Pro Trp Asn
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Trp Leu Asp Phe Thr Val Ile Thr Phe Ala Tyr Val Thr Glu Phe Val
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Gln Ala Thr Leu Glu Glu Ala Glu Gln Lys Glu Ala Glu Phe Gln Gln
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Ala Ala Ala Ser Ala Glu Ser Arg Asp Phe Ser Gly Ala Gly Gly Ile
465 470 475 480

Gly Val Phe Ser Glu Ser Ser Ser Val Ala Ser Lys Leu Ser Ser Lys
485 490 495

Ser Glu Lys Glu Leu Lys Asn Arg Arg Lys Lys Lys Lys Gln Lys Glu
500 505 510

Gln Ser Gly Glu Glu Glu Lys Asn Asp Arg Val Leu Lys Ser Glu Ser
515 520 525

Glu Asp Ser Ile Arg Arg Lys Gly Phe Arg Phe Ser Leu Glu Gly Ser
530 535 540

Arg Leu Thr Tyr Glu Lys Arg Phe Ser Ser Pro His Gln Ser Leu Leu
545 550 555 560

Ser Ile Arg Gly Ser Leu Phe Ser Pro Arg Arg Asn Ser Arg Ala Ser
565 570 575

Leu Phe Ser Phe Arg Gly Arg Ala Lys Asp Ile Gly Ser Glu Asn Asp
580 585 590

Phe Ala Asp Asp Glu His Ser Thr Phe Glu Asp Asn Asp Ser Arg Arg
595 600 605

Asp Ser Leu Phe Val Pro His Arg His Gly Glu Arg Arg His Ser Asn
610 615 620

Val Ser Gln Ala Ser Arg Ala Ser Arg Val Leu Pro Ile Leu Pro Met
625 630 635 640

Asn Gly Lys Met His Ser Ala Val Asp Cys Asn Gly Val Val Ser Leu
645 650 655

Val Gly Gly Pro Ser Thr Leu Thr Ser Ala Gly Gln Leu Leu Pro Glu
660 665 670

Gly Thr Thr Thr Glu Thr Glu Ile Arg Lys Arg Arg Ser Ser Ser Tyr
675 680 685

His Val Ser Met Asp Leu Leu Glu Asp Pro Thr Ser Arg Gln Arg Ala
690 695 700

Met Ser Ile Ala Ser Ile Leu Thr Asn Thr Met Glu Glu Leu Glu Glu

705		710		715		720									
Ser	Arg	Gln	Lys	Cys	Pro	Pro	Cys	Trp	Tyr	Lys	Phe	Ala	Asn	Met	Cys
				725					730					735	
Leu	Ile	Trp	Asp	Cys	Cys	Lys	Pro	Trp	Leu	Lys	Val	Lys	His	Leu	Val
			740					745					750		
Asn	Leu	Val	Val	Met	Asp	Pro	Phe	Val	Asp	Leu	Ala	Ile	Thr	Ile	Cys
		755					760					765			
Ile	Val	Leu	Asn	Thr	Leu	Phe	Met	Ala	Met	Glu	His	Tyr	Pro	Met	Thr
	770					775					780				
Glu	Gln	Phe	Ser	Ser	Val	Leu	Ser	Val	Gly	Asn	Leu	Val	Phe	Thr	Gly
785					790					795					800
Ile	Phe	Thr	Ala	Glu	Met	Phe	Leu	Lys	Ile	Ile	Ala	Met	Asp	Pro	Tyr
			805						810					815	
Tyr	Tyr	Phe	Gln	Glu	Gly	Trp	Asn	Ile	Phe	Asp	Gly	Phe	Ile	Val	Ser
			820					825					830		
Leu	Ser	Leu	Met	Glu	Leu	Gly	Leu	Ala	Asn	Val	Glu	Gly	Leu	Ser	Val
		835					840					845			
Leu	Arg	Ser	Phe	Arg	Leu	Leu	Arg	Val	Phe	Lys	Leu	Ala	Lys	Ser	Trp
	850					855					860				
Pro	Thr	Leu	Asn	Met	Leu	Ile	Lys	Ile	Ile	Gly	Asn	Ser	Val	Gly	Ala
865					870					875					880
Leu	Gly	Asn	Leu	Thr	Leu	Val	Leu	Ala	Ile	Ile	Val	Phe	Ile	Phe	Ala
			885						890					895	
Val	Val	Gly	Met	Gln	Leu	Phe	Gly	Lys	Ser	Tyr	Lys	Glu	Cys	Val	Cys
			900					905					910		
Lys	Ile	Ser	Asn	Asp	Cys	Glu	Leu	Pro	Arg	Trp	His	Met	His	Asp	Phe
		915					920					925			
Phe	His	Ser	Phe	Leu	Ile	Val	Phe	Arg	Val	Leu	Cys	Gly	Glu	Trp	Ile
	930					935					940				

Glu Thr Met Trp Asp Cys Met Glu Val Ala Gly Gln Thr Met Cys Leu
945 950 955 960

Thr Val Phe Met Met Val Met Val Ile Gly Asn Leu Val Val Leu Asn
965 970 975

Leu Phe Leu Ala Leu Leu Leu Ser Ser Phe Ser Ser Asp Asn Leu Ala
980 985 990

Ala Thr Asp Asp Asp Asn Glu Met Asn Asn Leu Gln Ile Ala Val Gly
995 1000 1005

Arg Met Gln Lys Gly Ile Asp Phe Val Lys Arg Lys Ile Arg Glu
1010 1015 1020

Phe Ile Gln Lys Ala Phe Val Arg Lys Gln Lys Ala Leu Asp Glu
1025 1030 1035

Ile Lys Pro Leu Glu Asp Leu Asn Asn Lys Lys Asp Ser Cys Ile
1040 1045 1050

Ser Asn His Thr Thr Ile Glu Ile Gly Lys Asp Leu Asn Tyr Leu
1055 1060 1065

Lys Asp Gly Asn Gly Thr Thr Ser Gly Ile Gly Ser Ser Val Glu
1070 1075 1080

Lys Tyr Val Val Asp Glu Ser Asp Tyr Met Ser Phe Ile Asn Asn
1085 1090 1095

Pro Ser Leu Thr Val Thr Val Pro Ile Ala Val Gly Glu Ser Asp
1100 1105 1110

Phe Glu Asn Leu Asn Thr Glu Glu Phe Ser Ser Glu Ser Asp Met
1115 1120 1125

Glu Glu Ser Lys Glu Lys Leu Asn Ala Thr Ser Ser Ser Glu Gly
1130 1135 1140

Ser Thr Val Asp Ile Gly Ala Pro Ala Glu Gly Glu Gln Pro Glu
1145 1150 1155

Val	Glu	Pro	Glu	Glu	Ser	Leu	Glu	Pro	Glu	Ala	Cys	Phe	Thr	Glu
1160						1165					1170			
Asp	Cys	Val	Arg	Lys	Phe	Lys	Cys	Cys	Gln	Ile	Ser	Ile	Glu	Glu
1175						1180					1185			
Gly	Lys	Gly	Lys	Leu	Trp	Trp	Asn	Leu	Arg	Lys	Thr	Cys	Tyr	Lys
1190						1195					1200			
Ile	Val	Glu	His	Asn	Trp	Phe	Glu	Thr	Phe	Ile	Val	Phe	Met	Ile
1205						1210					1215			
Leu	Leu	Ser	Ser	Gly	Ala	Leu	Ala	Phe	Glu	Asp	Ile	Tyr	Ile	Glu
1220						1225					1230			
Gln	Arg	Lys	Thr	Ile	Lys	Thr	Met	Leu	Glu	Tyr	Ala	Asp	Lys	Val
1235						1240					1245			
Phe	Thr	Tyr	Ile	Phe	Ile	Leu	Glu	Met	Leu	Leu	Lys	Trp	Val	Ala
1250						1255					1260			
Tyr	Gly	Phe	Gln	Val	Tyr	Phe	Thr	Asn	Ala	Trp	Cys	Trp	Leu	Asp
1265						1270					1275			
Phe	Leu	Ile	Val	Asp	Val	Ser	Leu	Val	Ser	Leu	Thr	Ala	Asn	Ala
1280						1285					1290			
Leu	Gly	Tyr	Ser	Glu	Leu	Gly	Ala	Ile	Lys	Ser	Leu	Arg	Thr	Leu
1295						1300					1305			
Arg	Ala	Leu	Arg	Pro	Leu	Arg	Ala	Leu	Ser	Arg	Phe	Glu	Gly	Met
1310						1315					1320			
Arg	Ala	Val	Val	Asn	Ala	Leu	Leu	Gly	Ala	Ile	Pro	Ser	Ile	Met
1325						1330					1335			
Asn	Val	Leu	Leu	Val	Cys	Leu	Ile	Phe	Trp	Leu	Ile	Phe	Ser	Ile
1340						1345					1350			
Met	Gly	Val	Asn	Leu	Phe	Ala	Gly	Lys	Phe	Tyr	His	Cys	Ile	Asn
1355						1360					1365			

Tyr Thr Thr Gly Glu Met Phe Asp Val Ser Val Val Asn Asn Tyr
1370 1375 1380

Ser Glu Cys Lys Ala Leu Ile Glu Ser Asn Gln Thr Ala Arg Trp
1385 1390 1395

Lys Asn Val Lys Val Asn Phe Asp Asn Val Gly Leu Gly Tyr Leu
1400 1405 1410

Ser Leu Leu Gln Val Ala Thr Phe Lys Gly Trp Met Asp Ile Met
1415 1420 1425

Tyr Ala Ala Val Asp Ser Arg Asn Val Glu Leu Gln Pro Lys Tyr
1430 1435 1440

Glu Asp Asn Leu Tyr Met Tyr Leu Tyr Phe Val Ile Phe Ile Ile
1445 1450 1455

Phe Gly Ser Phe Phe Thr Leu Asn Leu Phe Ile Gly Val Ile Ile
1460 1465 1470

Asp Asn Phe Asn Gln Gln Lys Lys Lys Phe Gly Gly Gln Asp Ile
1475 1480 1485

Phe Met Thr Glu Glu Gln Lys Lys Tyr Tyr Asn Ala Met Lys Lys
1490 1495 1500

Leu Gly Ser Lys Lys Pro Gln Lys Pro Ile Pro Arg Pro Ala Asn
1505 1510 1515

Lys Phe Gln Gly Met Val Phe Asp Phe Val Thr Lys Gln Val Phe
1520 1525 1530

Asp Ile Ser Ile Met Ile Leu Ile Cys Leu Asn Met Val Thr Met
1535 1540 1545

Met Val Glu Thr Asp Asp Gln Ser Gln Glu Met Thr Asn Ile Leu
1550 1555 1560

Tyr Trp Ile Asn Leu Val Phe Ile Val Leu Phe Thr Gly Glu Cys
1565 1570 1575

Val Leu Lys Leu Ile Ser Leu Arg Tyr Tyr Tyr Phe Thr Ile Gly

1580		1585		1590
Trp Asn Ile Phe Asp Phe Val	Val Val Ile Leu Ser	Ile Val Gly		
1595	1600	1605		
Met Phe Leu Ala Glu Leu Ile	Glu Lys Tyr Phe Val	Ser Pro Thr		
1610	1615	1620		
Leu Phe Arg Val Ile Arg Leu	Ala Arg Ile Gly Arg	Ile Leu Arg		
1625	1630	1635		
Leu Ile Lys Gly Ala Lys Gly	Ile Arg Thr Leu Leu	Phe Ala Leu		
1640	1645	1650		
Met Met Ser Leu Pro Ala Leu	Phe Asn Ile Gly Leu	Leu Leu Phe		
1655	1660	1665		
Leu Val Met Phe Ile Tyr Ala	Ile Phe Gly Met Ser	Asn Phe Ala		
1670	1675	1680		
Tyr Val Lys Arg Glu Val Gly	Ile Asp Asp Met Phe	Asn Phe Glu		
1685	1690	1695		
Thr Phe Gly Asn Ser Met Ile	Cys Leu Phe Gln Ile	Thr Thr Ser		
1700	1705	1710		
Ala Gly Trp Asp Gly Leu Leu	Ala Pro Ile Leu Asn	Ser Gly Pro		
1715	1720	1725		
Pro Asp Cys Asp Pro Asp Lys	Asp His Pro Gly Ser	Ser Val Lys		
1730	1735	1740		
Gly Asp Cys Gly Asn Pro Ser	Val Gly Ile Phe Phe	Phe Val Ser		
1745	1750	1755		
Tyr Ile Ile Ile Ser Phe Leu	Val Val Val Asn Met	Tyr Ile Ala		
1760	1765	1770		
Val Ile Leu Glu Asn Phe Ser	Val Ala Thr Glu Glu	Ser Ala Glu		
1775	1780	1785		
Pro Leu Ser Glu Asp Asp Phe	Glu Met Phe Tyr Glu	Val Trp Glu		
1790	1795	1800		

<210> 37
<211> 912
<212> DNA
<213> Homo sapiens

<400> 37

gaattcttta tatgggttga atgactttct gacatagcaa ataaaaagca tgaggagaag	60
cattatctgt taacaaaatt aacacttaaa atcaacaaag ttttaatgtt tcgttccaag	120
aaaagcctgt ggaagatcag ttccacaact gagagctttg ggctgcttca gacatatgtc	180
tgtgtgtacg ctgtgaagggt gtttctcttc acagttcccc gccctctagt ggtagttaca	240
ataatgccat tttgtagtcc ctgtacagga aatgcctctt cttacttcag ttaccagaat	300
ccttttacag gaagttaggt gtggctcttg aaggagaatt aaaaaaaaaa aaaaaaaaaa	360
aaaaaagatt tttttttttt taaagcatga tggaatttta gctgcagtct tcttggggcc	420
agcttatcaa tcccaaactc tgggggtaaa agattctaca ggggtaatgt tttattattc	480
ttattatgct tattctctgt gatgcttctc tacctttaca gtagtagaat ccttggggaa	540
atctgcagag ggaccacttt catthtgaag ctgctggctg catgttttag catgtctctt	600
ctattagaga atccaggcat ggagtttcc tccccagtg tgcaaggacc atcttcatgc	660
ctatgtctgt cgctaggcat gagggctctc aggaatgggt gaaaaaaatg agggatgttt	720
tggaggcact ataatactgg ggagggcagt ctgctagctg gtagctgaaa ggtcctgggt	780
tacttcaaca ttttttttaa ataaaactgt gcagtagttt ttgttatttt agggttccct	840
ctgttttatc tgggtgatgc tgcagaagtg aactgcataa cacatttcac tcttagaaat	900
gcattccata ta	912

<210> 38
<211> 722
<212> DNA
<213> Homo sapiens

<400> 38

ctcagtgcac gtaactgaca caatcacctc tatctaattg tcatgcttct tacctcctgt	60
tctgtagcac tttcttatgc aaggagctaa acagtgatta aaggagcagg atgaaaagat	120
ggcacagtca gtgctgggtac cgccaggacc tgacagcttc cgcttcttta ccagggaatc	180
ccttgctgct attgaacaac gcattgcaga agagaaagct aagagacca aacaggaacg	240
caaggatgag gatgatgaaa atggcccaaa gccaaacagt gacttggaag cagsaaaatc	300
tcttccattt atttatggag acattcctcc agagatgggt tcatgcccc tggaggatct	360

ggacccctac tatatcaata agaaagtgag ttcttagtca agttgccttc actgcctatt	420
tactaattgg ttctgggcta gtcccagga tgatggtgaa gaaggctggc ctccttcct	480
ctgtctaaag tatkactaag atgctggatg ggcctgaccg tgtaatggac caatgatcct	540
agaagtcttt tggaagcact catttgaacc tgcatttgtg agacaggcag agaactggtg	600
aggcatcctc cagcgcggga attaaggaag gacaaaagcc tattcacctt cttgaataca	660
aattatatgc ttaaaccagt gtaaattgac cctgattccc taataatgtt gagaagcaaa	720
aa	722

<210> 39
 <211> 561
 <212> DNA
 <213> Homo sapiens

<400> 39	
cctatggcat tgatcacaaa ttttcttaat aatcctcatg tcatttatca aatttaggaa	60
agtttatagt gctcagaaaa aaaaagcatc tatcttcatg tcatatgatg gtaattatta	120
tgttatacac tattttacag ggcaatattt ataaataatg gttttacttt tctcttaaaa	180
tattcttaat atatattcta agttttgttt tatgtgtgtg gttttctttt tcagacgttt	240
atagtattga ataaagggaa agcaatctct cgattcagtg ccaccctgc cctttacatt	300
ttactcctt tcaaccctat tagaaaatta gctattaaga ttttggtaca ttcatatcct	360
ttttcaaata gtcacttaat atgattttct tctttgacca agttattgag ctacacattt	420
tccaaaatat ctgtgggttg caatgttatg tggtctttct ttttctttcc ttttactcaa	480
tcgtagcat gttgcaaaat gagatcacag gtaagtgaat tactttcccc cgtcttctaa	540
gtgtttcttc tctaccaac t	561

<210> 40
 <211> 510
 <212> DNA
 <213> Homo sapiens

<400> 40	
acctaaatag cctcaaaata gttgatggct tggcctgaag acaagatcta aatatgaggt	60
tgctgagtta tagaatggc aaaaaaagg gtcaataata gaataataag caacaaaata	120
atagtaagca ctaaagtttt aaacttcatg gtggtgaagg catggtagtg cataaaagta	180
agatttttcc attgaacttt gtcttccttg acgatattct actttattca atatgctcat	240

tatgtgcacg attcttacca actgtgtatt tatgaccatg agtaaccctc cagactggac	300
aaagaatgtg gagtaagtat aaatatTTTT caatattgac ctccctttat gtttcatatt	360
gtgcttttaa caccttgaga ctcctcaat ttctttaaca aatcatgcta gctactgtta	420
accagaccct gattcaaatt catttctgtc actaaatgtc ttctaggaca aagcttgtag	480
tgggctcact tagttgtgta aattactgca	510

<210> 41
 <211> 370
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (293)..(293)
 <223> n= a, c, t or g

<400> 41	
taagatatgt acttgtaaatt taaccactag atttttaatg tgagcttggc tattgtctct	60
caggatatacc ttacaggaa ttatacttt tgaatcactt attaaaatac ttgcaagggg	120
cttttgttta gaagatttca cttttttacg ggatccatgg aattgggttg atttcacagt	180
cattactttt gcgtaagtat cttaatacat ttctatcctt ggaagagtaa atcactgggtg	240
ggagcctata ctatatTTTt cttgggtggct tgccttgaca gaccaagcat ttntcttagt	300
aatcatagtt ttcttccaat caaattatcc agtttggaga aattaggaac tatcatagta	360
aattacatgg	370

<210> 42
 <211> 370
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (133)..(133)
 <223> n = a, c, t or g

<400> 42	
caattagcac tgtaaagtaa taaagtttcc caaataacag agattatgat tgatgacaat	60
gccattttcc tcttaattgg gaaagctgat ggcgacactc atgaaattaa aaaggtcttg	120
atgaaagacc aangaagacg tagattttcc taaattctga ataactctga tttaattcta	180
caggatatgta acagaatttg taaacctagg caatgtttca gctcttcgaa ctttcagagt	240

cttgagagct ttgaaaacta tttctgtaat tccaggttaag aagaaaatgg tataaggtgg 300
taggcccctt atatctccaa ctgtttcttg tgttctgtca ttgtgtttgt gtgtgaaccc 360
cctattacag 370

<210> 43
<211> 410
<212> DNA
<213> Homo sapiens

<400> 43
gtaagaagaa aatgggtataa ggtggtaggc cccttatatc tccaactggt tcttgtgttc 60
tgtcattgtg tttgtgtgtg aaccccctat tacagatatg tgacagagtt tgtggacctg 120
ggcaatgtct cagcgttgag aacattcaga gttctccgag cattgaaaac aatttcagtc 180
attccaggtg agagctaggt taaacaccga ggctgacttt agctacagtg gtgctacaat 240
cacagctttt gtgcagaagc cttgttgcta gttgcatatt gcaaataaat atgtaaaaaa 300
gcaagaattg gtacatcatt ttttggtatgg atttgattct ttgcttttta cccgttgctt 360
tctttaaaac tattctaaat cagcctttga gtttaacaag tgttgcatga 410

<210> 44
<211> 1066
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (229)..(229)
<223> n = a, c, t or g

<400> 44
aaagagtgtt tggaaataca catttggttc atttccattc acagttttct aatgaacata 60
caagttctgc tttcattcat tttcaccagc tagtaggctt ttcattgaaa tgttattcaa 120
tcacaaacat taaactaata ttggtggcat tctgcatgac atttttatatt tccaggccaa 180
gctcatgata tttttgccgg taaaatagct gttgagtagt atatttaant tcccccttct 240
gattttgttt gtaggcctga agaccattgt gggggccctg atccagtcag tgaagaagct 300
ttctgatgtc atgatcttga ctgtgttctg tctaagcgtg tttgcgctaa taggattgca 360
gttgttcatg ggcaacctac gaaataaatg tttgcaatgg cctccagata attcttcctt 420
tgaaataaat atcacttcct tctttaacaa ttcattggat gggaatggta ctactttcaa 480

taggacagtg agcatattta actgggatga atatattgag gataaaagta agatatactc	540
tataaaccat taagttgttt agttctctaa atattaaata ttatatataa tggaaattat	600
ctcaatttag atgtgaatca agtgacttag actaatttaa gatgatttaa tacatataaa	660
agagatatca aaggatacct tattctatctt ttsttatctg tccattgata tagtaaaagt	720
tctcatttga aaatgtgttg tcttatactc atgttgaaag taatttcata ttatgccata	780
ttaaaaaagg tttatttggt agacattaat cagggttttc agtcatttta ataaataagt	840
cagtagtttg aactattcmg cgtattccac tgaaatgtcg ttaagaagac tgaggggaaa	900
taatttggcc ctatttggtt gatgcaacat atgtattgag tacatatgct atatctgaaa	960
ctagagaaac catttatcaa gatgaaataa gaatttgtgt gtcctcaga aggttaaagta	1020
accctgattt agccattcac ttcattccata ttctaattag tccctt	1066

<210> 45
 <211> 385
 <212> DNA
 <213> Homo sapiens

<400> 45	
gttcaattat tgtgaaaaat cttctttagc catatatatt tattagttta tccatctcat	60
tatgattgaa aacatttgtg agctttgcc aataaacagg gtggctgaag tgttttacag	120
gattttaatg attctttcta ttcctttctc tttaaataagg tcaacttttat tttttacagg	180
ggcaaaatga tgctctgctt tgtggcaaca gctcagatgc agggtaagtg tatgcttctc	240
actgagtttc agtccacact gctccatcag tgtcaataac ctgccacctc ccactcatcc	300
agtcccacca ctctcactc aaaaccctcc ataaattcta cttcacgggtg actctcagaa	360
tgaccaggat aagtgtagat tctca	385

<210> 46
 <211> 430
 <212> DNA
 <213> Homo sapiens

<400> 46	
tataataatg acaattatga atcacagagg aatccacaaa gtagacctta tagattctgt	60
cattatataa atcagtcac ttagtgctga gttaagtact gggtaagggtg agagaaatcg	120
gcttttttct agtgctgta taaaacagac attggcatat attaaaacag gaaaaccaat	180
tagcagactt gccgttattg actycctctc tttcctctaa cctaattaca gccagtgtcc	240
tgaaggatac atctgtgtga aggctggtag aaaccccaac tatggctaca cgagctttga	300

cacctttagt tgggcctttt tgccttatt tcgtctcatg actcaagact tctgggaaaa	360
cctttatcaa ctggtgagaa cagataaaat ctttttctg agaatcataa aacaccgaac	420
tcaagagaat	430

<210> 47
 <211> 646
 <212> DNA
 <213> Homo sapiens

<400> 47	
tgctgtagaa tttttatta cttagagtgt aagtttgtaa catcctatat aaaatttatt	60
aaaatctctc ttccattttg cagacactac gtgctgctgg gaaaacgtac atgatatttt	120
ttgtgctggc ctttttcttg ggctcattct atctaataaa tttgatcttg gctgtgggtg	180
ccatggccta tgaggaacag aatcaggcca cattggaaga ggctgaacag aaggaagctg	240
aatttcagca gatgctcgaa cagttgaaaa agcaacaaga agaagctcag gtatagttaa	300
caagcatacg gtcctttgtt tttctgtatc taaattcttt aacctaaatg ttgaggctcag	360
tggcaaggta gttgacatta gaaataggct atatgtgttt ggtaagtgtc aggagcctgt	420
ttggttatta agaagttatt actttattgc aatgatctct gtcaatagtg tcaatagtaa	480
tggcatcaaa aaatggataa ttataattgc tttactgaca ttttttctc cttgtgact	540
ccttgaggaa attaatgatt aacaaaggcc tcactgtactc aaacttgcag agtagataaa	600
cctacatgtc ctcagttgaa gtattttctt aggggaagag gaattc	646

<210> 48
 <211> 711
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (164)..(164)
 <223> n = a, c, t or g

<400> 48	
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ctgtgttcta aaacacagaa taaaatggag aattgttttt caagattatc ttcatgat	120
tgaagctcaa ttaagcagta acatgataat ttttttttaa gatnatatgc aacttccac	180
atactttgcg ccttctagg cggcagctgc agccgcatct gctgaatcaa gagacttcag	240

tggtgctggt gggataggag ttttttcaga gagttcttca gtagcatcta agttgagctc	300
caaaagtgaa aaagagctga aaaacagaag aaagaaaaag aaacagaaag aacagtctgg	360
agaagaagag aaaaatgaca gagtcctaaa atcggaatct gaagacagca taagaagaaa	420
aggtttccgt ttttccttgg aaggaagtag gctgacatat gaaaagagat tttcttctcc	480
acaccaggta aaaatattaa attacatgaa ttgtgttctc ataaattttt taaaagaata	540
tgccagaatt taatggagag aaaaccgcct tccacctgga tggcacaatg ctttcagagt	600
agtgatgatt atcaagtgtt ttggctatca cttcagagaa tttgtgagtt ttgcaacttt	660
ttggaatccc aggaaggaaa ttttagatcc ctctggggtt ggaaaaattt g	711

<210> 49
 <211> 1026
 <212> DNA
 <213> Homo sapiens

<400> 49	
ttatggggac acttctgact atgttgaggt gtgggtaaag taggagaaaa gagagcagaa	60
gatggaaaat ggaggaagga gaaaaagcga gagtgaaata gaaaagggtga accttgtaga	120
aagtgccaaa atgccaccag cagtcatcag aggggtgctt tcttccacat gtccaatgac	180
ttatccttga gtaagtcaat gactatgaca caatgaatca aattctgttt ttcagaatgc	240
cagctcttaa ctctcttcat ctcatTTTTg tttcttttct tgttattcat agtccttact	300
gagcatccgt ggctcccttt tctctccaag acgcaacagt agggcgagcc ttttcagctt	360
cagaggtcga gcaaaggaca ttggctctga gaatgacttt gctgatgatg agcacagcac	420
ctttgaggac aatgacagcc gaagagactc tctgttcgtg ccgcacagac atggagaacg	480
gcgccacagc aatgtcagcc aggccagccg tgccctcagg gtgctcccca tctgccccat	540
gaatgggaag atgcatagcg ctgtggactg caatggtgtg gtctccctgg tcgggggccc	600
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gaatttkttg agtttsttgc ccaaaggctg ggagtttgtt caatcaagct gttaactgtc	780
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agagaatata attagamgtm atctttcatc ayyattacta tggtatgaaa ctcgccaaaa	900
agcaaagcaa caatttatca agcataatgt tygaytaata tagttaaatt aaatccaagg	960
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aggaga

1026

<210> 50
<211> 601
<212> DNA
<213> Homo sapiens

<400> 50
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aaagcatggg gtatatattag ttaaataaca cctgttgtag gaatgctttg ggctttgctg 180
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tacatcaagg caaagagcaa tgagtatagc cagtattttg accaacacca tggaaggat 360
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atttcaataa aatacttcct gacttgatat tgtatcatta ttacacattt tactaaataa 480
cagtaaaatc cgtgcataac tcatggattc atatattcca cagatttttt tttttatat 540
ttagcctgta gaaagctgct gcaaagttaa ggtatatattg aacaccactt tcataactta 600
a 601

<210> 51
<211> 645
<212> DNA
<213> Homo sapiens

<400> 51
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ctgttcctcc agcagattaa ccataatat cttttaacaa ctttagattt tttaaattcc 120
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gctaatatgt gtttgatttg ggactgttgt aaaccatggg taaagggtgaa acaccttgct 300
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gttgaaacc tggtaagcct cactgagagt ttctcttctt cttgaaagag ttataattg 480
ccttagtgaa ttttacatat tgctctcaaa ttaaatatca actaattggc catgtatatc 540
ttgacatcaa atgttttagca tcccttttaa ataacaaaaa aatgttgcta ccatagtgc 600

aaagagtcaa agaatttatg tacaatttga tttagaattg aattt 645

<210> 52
<211> 485
<212> DNA
<213> Homo sapiens

<400> 52
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gttgctcaat aattattcgt gtttcaakas tatttgctca tataatgaac tacacttctc 120
atttaggtct tcacagggat cttcacagca gaaatgtttc tcaagataat tgccatggat 180
ccatattatt actttcaaga aggctggaat atttttgatg gttttattgt gagccttagt 240
ttaatggaac ttggtttggc aaatgtggaa ggattgtcag ttctccgatc attccggctg 300
gtaaattaac tgggagtgtt cataaaatgt actttrtaat taattagtct tcattctcat 360
ctagtaaaaa tggcaagatt tcccatcatt ataatatatt tgaatacctt ctaaaacaga 420
ttggattgcc ataccaccaa atggtagttt cttcttcac atagctttaa taaagttcac 480
ttaa 485

<210> 53
<211> 602
<212> DNA
<213> Homo sapiens

<400> 53
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tatataataa taaaataaaa taaaaataaa aataaaaaaa taaaataaaa ataaaattgc 120
agattttttt agaaatgcag agattaacac tggtcttgct tttatttcca gctccgagtt 180
ttcaagttgg caaaatcttg gccaaactcta aatatgctaa ttaagatcat tggcaattct 240
gtgggggctc taggaaacct caccttggtg ttggccatca tcgtcttcat ttttgctgtg 300
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tgtgaactcc cacgctggca catgcatgac tttttccact ccttcctgat cgtgttccgc 420
gtgctgtgtg gagagtggat agagaccatg tgggactgta tggaggtcgc tggccaaacc 480
atgtgcctta ctgtcttcat gatggtcacg gtgattggaa atctagtggg atgtagcaaa 540
aacattttcc tcattttcat taaaaataat gtaatcatta aaaagtgttc aactgaagaa 600
ta 602

<210> 54
<211> 803
<212> DNA
<213> Homo sapiens

<400> 54
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agtattatatt tatattgacc aagcattttt atttcattca ctttttttca gaatagtgtgta 120
tcatgaatta gcagaaatgc atgttagaat aaaataagggt gtcaagaaca atcttagaaa 180
actaatgatg gaaagcaatt gaagcaatag aatgttttga tcacctgttt ttctgtctgt 240
gtttcaggtt ctgaacctct tcttgccctt gcttttgagt tccttcagtt ctgacaatct 300
tgctgccact gatgatgata acgaaatgaa taatctccag attgctgtgg gaaggatgca 360
gaaaggaatc gattttgtta aaagaaaaat acgtgaattt attcagaaag cctttgttag 420
gaagcagaaa gcttttagatg aaattaaacc gcttgaagat ctaaataata aaaaagacag 480
ctgtatttcc aaccatacca ccatagaaat aggcaaagac ctcaattatc tcaaagacgg 540
aaatggaact actagtggca taggcagcag tgtagaaaaa tatgtcgtgg atgaaagtga 600
ttacatgtca ttataaaaca accctagcct cactgtgaca gtaccaattg ctgttggaga 660
atctgacttt gaaaatttaa atactgaaga attcagcagc gagtcagata tggaggaaag 720
caaagaggta aaatgttaaa taaggagata ttttggtgta tataatctgt gttaaataac 780
aggtgtttaa tgcgtgtctc tgt 803

<210> 55
<211> 615
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (90)..(90)
<223> n = a, c, t or g

<220>
<221> misc_feature
<222> (378)..(386)
<223> n = a, c, t or g

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tggcattatg ttttaagttct taattacaga tcaagaaaaa tgcatacaga agatggggggg	180
gggcacacct aattaatttt tatattttaga ttaaagaaaa taattaaatg tgtttttttg	240
tgggattgat tttcagaagc taaatgcaac tagttcatct gaaggcagca cggttgatat	300
tggagctccc gccgaggag aacagcctga ggttgaacct gaggaatccc ttgaacctga	360
agcctgtttt acagaagnnn nnnnnnaagc aaaacaataa catatgtggt cttgagtatc	420
ctcttttcta cccatttttt cctatttatt taaatgtctg tttatttgtc taccatctag	480
ttcatctatc tatctgtatc tatctatcta tctatctatc tagtaatcat ctatacctat	540
ccaacaactg tacatttatt tgtttttttt ttttgcattt gctgtttgaa aaaaaatgca	600
acgtttttaa ggcaa	615

<210> 56
 <211> 400
 <212> DNA
 <213> Homo sapiens

<400> 56	
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gtaataatgt aatgaatct cccaccaaca caaatatacc taatcaaaga gtaatttttt	120
gtcttcattt ttttcccaca tatttttagac tgtgtacgga agttcaagtg ttgtcagata	180
agcatagaag aaggcaaagg gaaactctgg tggaatttga ggaaaacatg ctataagata	240
gtggagcaca attggttcga aaccttcatt gtcttcatga ttctgctgag cagtggggct	300
ctggtaggtg atgcatgatc cactccttca cctttcatct gaaatctttt ccctttccct	360
tcaatcaact catattaccc actttttaaata taaggtgttt	400

<210> 57
 <211> 560
 <212> DNA
 <213> Homo sapiens

<400> 57	
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atgataaagt aaaattcagc catgggaaac attaaacctt ccagccttag gcacctgata	120
agagcttgca tcgtttcctt ttttaagaaa tcatcaatta gagactgttt ctgatcataa	180
aatttaatag aattttttga cttacaggcc tttgaagata tatacattga gcagcgaaaa	240
accattaaga ccatgttaga atatgctgac aagggtttca cttacatatt cattctggaa	300

atgctgctaa agtgggttgc atatggtttt caagtgtatt ttaccaatgc ctggtgctgg	360
ctagacttcc tgattgttga tgtgagtatg ctgcactttg ctgctttatt cattggcata	420
tatgtaatag ttctagcaat ggtgcctgac acagtgtagg cactcagtaa cactgtatca	480
gcccaaatat aaattatggt tctcatttca cagtgaagagg atgcctcaaa acatttttta	540
ccaatttaaa tacatataca	560

<210> 58
 <211> 480
 <212> DNA
 <213> Homo sapiens

<400> 58	
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agacccttg gtgattttga aactcatgaa agttcgagaa ttactgattc attgcataga	120
gcaaggctga actgtgtaga cttttttata tgtaaataag aaaattgtgt tgctttttct	180
gtataggtct cactgggttag cttaactgca aatgccttgg gttactcaga acttgggtgcc	240
atcaaattccc tcagaacact aagagctctg aggcactga gagctttgtc ccggtttgaa	300
ggaatgaggg taagactgaa tgccttagag tttgtcagaa ttattattga gagcagactg	360
acactttgta ccatggaaat gtcaaattta tggagaattt gtgtcttaca cattcatact	420
gacatagcta atcaatcaaa aataatattt accagatgcc cataatactt ggcactgctg	480

<210> 59
 <211> 640
 <212> DNA
 <213> Homo sapiens

<400> 59	
taattttaaa attcttagtt ggagctacca gagtctagtt tctaccaat attcaacttt	60
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tttgttgttg gcttttcact tttttttcct tctcatctg tgccagggtg ttgtaaatgc	180
tcttttagga gccattccat ctatcatgaa tgtacttctg gtttgtctga tcttttggct	240
aatattcagt atcatgggag tgaatctctt tgctggcaag ttttaccatt gtattaatta	300
caccactgga gagatgtttg atgtaagcgt ggtcaacaac tacagtgagt gcaaagctct	360
cattgagagc aatcaaactg ccagggtgaa aaatgtgaaa gttaaactttg ataacgtagg	420
acttggatat ctgtctctac ttcaagtagt aagtaatcac tttattattt tccatgatgt	480
gtaattaaaa tgagtctaaa gtttttcttc ctcataatga gatatccacc tgttagaatg	540

gctattatca aacagataaa tgacaataaa tgctggcaag aatgtgaaga aaaggggaacc	600
cttgtagatt gttggcaggg atgtaaatta gtatagcttt	640

<210> 60
 <211> 480
 <212> DNA
 <213> Homo sapiens

<400> 60	
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agcttatttta tatgcctgta ttgaatacat gtcaaataga attttgatca attattcaat	120
ttattttcta aaattataat tttgggaaaa aagaaaatga tatgactttt cttacaggcc	180
acgtttaagg gatggatgga tattatgtat gcagctgttg attcacgaaa tgtaagtcta	240
gtagagggga aattgttttag ttgattaaa tgtatatttc tacaatattg taatttagtg	300
atattgtcaa taaaataaaa ttatgtgctt aatttataaa acccatctat attataagga	360
taaaatattt aatcatacta tttctttcaa aattatcata ggatgatttt ctctaatac	420
tctgtatctt ttaacatatc ttttctagta ttagcaagg cacctgacac aaaactttat	480

<210> 61
 <211> 366
 <212> DNA
 <213> Homo sapiens

<400> 61	
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tataatgggtt acaattcttc atattcttta ggtagaatta caacccaagt atgaagacaa	120
cctgtacatg tatctttatt ttgtcatctt tattatTTTTT gggtcattct ttaccttgaa	180
tcttttcatt ggtgtcatca tagataactt caaccaacag aaaaagaaga taagtatatt	240
aaaacttcat ccttgctctg aaatatgaac taaatatttc atactctttc ctttagcctc	300
caaaatgcaa tcaccaaaaa aagaatataa aattcagaaa ttattttgag acatttgata	360
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<210> 62
 <211> 560
 <212> DNA
 <213> Homo sapiens

<400> 62	
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aaatatgact aatatggcat aatttatata ttgaataaag gcatctctat aaatacagat	120
attagtaaca atagaatgaa atgtgggagc caattttcac atgattacta aggtggattt	180
tatagccagc aaagaacaca attttaacaa gtgttgcttt catttcttta ctttggaggt	240
caagacattt ttatgacaga agaacagaag aaatactaca atgcaatgaa aaaactgggt	300
tcaaagaaac cacaaaaacc catacctcga cctgctgtaa gaataacata ttttcattgc	360
ctgttaaaac tatattacct aaccgtttca cagcccgaat ttctagaaac tagttatttt	420
tgtggatttg taacacaaag ttttttacct taacaatggg actagctagc ctaaatagct	480
tgaaaaatgt actttacata tataatatgt ataaattata taatgcataa catattttat	540
atgtaaacat ataaaataca	560

<210> 63
 <211> 650
 <212> DNA
 <213> Homo sapiens

<400> 63	
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aaagctacat tttttgttgc tttcttaaaa tcagaagaat tgaattcgat tttttttaag	120
gttttctaag gaacttttac atattatttg ttccagaaca aattccaagg aatggctctt	180
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gtcaccatga tgggtggaac cgatgaccag agtcaagaaa tgacaaacat tctgtactgg	300
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cgttactact atttcactat tggatggaat atttttgatt ttgtgggtgg cattctctcc	420
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aaatctaata gtccattgtt ttagttaggt tttgccattt ctctaattgc atgctgtgct	600
tgaaatgatg agtggaaac aaggatttta tattttcagc tttcatttat	650

<210> 64
 <211> 3700
 <212> DNA
 <213> Homo sapiens

<400> 64	
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ccgtcttgcc aggattggcc gaatcctacg tctgatcaaa ggagcaaagg ggatccgcac	300
gctgctcttt gctttgatga tgtcccttcc tgcgttgttt aacatcggcc tccttctttt	360
cctggtcattg ttcattctacg ccatctttgg gatgtccaat tttgcctatg ttaagaggga	420
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cccatctgtt gggattttct tttttgtcag ttacatcatc atatccttcc tggttgtggg	660
gaacatgtac atcgcggtca tcctggagaa cttcagtgtt gctactgaag aaagtgcaga	720
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aagtctgctt	tgtaaatagt	aattttaccc	agtgggtgcat	gtttgagcaa	acaaaaatga	2520
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taatatggga	tcccagcttt	ttttcctctc	ccacaaaacc	aggtagtga	gttatattac	3420
cagttacagc	aaaatacttt	gtgtttcaca	agcaacaata	aatgtagatt	ctttatactg	3480

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acggtaaacc acattacaat caagccaaag aataaagggtt cgcttatgta tatgtattta	3600
attgttgtct ttgtttctat ctttgaaatg ccatttaaag gtagatttct atcatgtaaa	3660
aataatctat ctgaaaaaca aatgtaaaga acacacatta	3700

<210> 65
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35 40 45

Pro Lys Pro Asn Ser Asp Leu Glu Ala Gly Lys Asn Leu Pro Phe Ile
50 55 60

Tyr Gly Asp Ile Pro Pro Glu Met Val Ser Glu Pro Leu Glu Asp Leu
65 70 75 80

Asp Pro Tyr Tyr Ile Asn Lys Lys Thr Phe Ile Val Met Asn Lys Gly
85 90 95

Lys Ala Ile Ser Arg Phe Ser Ala Thr Ser Ala Leu Tyr Ile Leu Thr
100 105 110

Pro Leu Asn Pro Val Arg Lys Ile Ala Xaa Lys Ile Leu Val His Ser
115 120 125

Leu Phe Ser Met Leu Ile Met Cys Thr Ile Leu Thr Asn Cys Val Phe
130 135 140

Met Thr Leu Ser Asn Pro Pro Asp Trp Thr Lys Asn Val Glu Tyr Thr
145 150 155 160

Phe Thr Gly Ile Tyr Thr Phe Glu Ser Leu Ile Lys Ile Leu Ala Arg
165 170 175

Gly Phe Cys Leu Glu Asp Phe Thr Phe Leu Arg Asp Pro Trp Asn Trp
180 185 190

Leu Asp Phe Ser Val Ile Val Met Ala Tyr Val Thr Glu Phe Val Asp
195 200 205

Leu Gly Asn Val Ser Ala Leu Arg Thr Phe Arg Val Leu Arg Ala Leu
210 215 220

Lys Thr Ile Ser Val Ile Pro Gly Leu Lys Thr Ile Val Gly Ala Leu
225 230 235 240

Ile Gln Ser Val Lys Lys Leu Ser Asp Val Met Ile Leu Thr Val Phe
245 250 255

Cys Leu Ser Val Phe Ala Leu Ile Gly Leu Gln Leu Phe Met Gly Asn
260 265 270

Leu Arg Asn Lys Cys Leu Gln Trp Pro Pro Ser Asp Ser Ala Phe Glu
275 280 285

Thr Asn Thr Thr Ser Tyr Phe Asn Gly Thr Met Asp Ser Asn Gly Thr
290 295 300

Phe Val Asn Val Thr Met Ser Thr Phe Asn Trp Lys Asp Tyr Ile Gly
305 310 315 320

Asp Asp Ser His Phe Tyr Val Leu Asp Gly Gln Lys Asp Pro Leu Leu
325 330 335

Cys Gly Asn Gly Ser Asp Ala Gly Gln Cys Pro Glu Gly Tyr Ile Cys
340 345 350

Val Lys Ala Gly Arg Asn Pro Asn Tyr Gly Tyr Thr Ser Phe Asp Thr
355 360 365

Phe Ser Trp Ala Phe Leu Ser Leu Phe Arg Leu Met Thr Gln Asp Tyr
370 375 380

Trp Glu Asn Leu Tyr Gln Leu Thr Leu Arg Ala Ala Gly Lys Thr Tyr

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Met	Ile	Phe	Phe	Val	Leu	Val	Ile	Phe	Leu	Gly	Ser	Phe	Tyr	Leu	Val
			405						410					415	
Asn	Leu	Ile	Leu	Ala	Val	Val	Ala	Met	Ala	Tyr	Glu	Gly	Gln	Asn	Gln
			420					425						430	
Ala	Thr	Leu	Glu	Glu	Ala	Glu	Gln	Lys	Glu	Ala	Glu	Phe	Gln	Gln	Met
		435					440						445		
Leu	Glu	Gln	Leu	Lys	Lys	Gln	Gln	Glu	Glu	Ala	Gln	Ala	Val	Ala	Ala
	450					455					460				
Ala	Ser	Ala	Ala	Ser	Arg	Asp	Phe	Ser	Gly	Ile	Gly	Gly	Leu	Gly	Glu
465					470					475					480
Leu	Leu	Glu	Ser	Ser	Ser	Glu	Ala	Ser	Lys	Leu	Ser	Ser	Lys	Ser	Ala
			485						490					495	
Lys	Glu	Trp	Arg	Asn	Arg	Arg	Lys	Lys	Arg	Arg	Gln	Arg	Glu	His	Leu
			500					505					510		
Glu	Gly	Asn	Asn	Lys	Gly	Glu	Arg	Asp	Ser	Phe	Pro	Lys	Ser	Glu	Ser
		515					520					525			
Glu	Asp	Ser	Val	Lys	Arg	Ser	Ser	Phe	Leu	Phe	Ser	Met	Asp	Gly	Asn
	530					535					540				
Arg	Leu	Thr	Ser	Asp	Lys	Lys	Phe	Cys	Ser	Pro	His	Gln	Ser	Leu	Leu
545					550					555					560
Ser	Ile	Arg	Gly	Ser	Leu	Phe	Ser	Pro	Arg	Arg	Asn	Ser	Lys	Thr	Ser
			565						570					575	
Ile	Phe	Ser	Phe	Arg	Gly	Arg	Ala	Lys	Asp	Val	Gly	Ser	Glu	Asn	Asp
			580					585					590		
Phe	Ala	Asp	Asp	Glu	His	Ser	Thr	Phe	Glu	Asp	Ser	Glu	Ser	Arg	Arg
		595					600					605			
Asp	Ser	Leu	Phe	Val	Pro	His	Arg	His	Gly	Glu	Arg	Arg	Asn	Ser	Asn
610						615					620				

Gly	Thr	Thr	Thr	Glu	Thr	Glu	Val	Arg	Lys	Arg	Arg	Leu	Ser	Ser	Tyr	625	630	635	640
Gln	Ile	Ser	Met	Glu	Met	Leu	Glu	Asp	Ser	Ser	Gly	Arg	Gln	Arg	Ala	645	650	655	
Val	Ser	Ile	Ala	Ser	Ile	Leu	Thr	Asn	Thr	Met	Glu	Glu	Leu	Glu	Glu	660	665	670	
Ser	Arg	Gln	Lys	Cys	Pro	Pro	Cys	Trp	Tyr	Arg	Phe	Ala	Asn	Val	Phe	675	680	685	
Leu	Ile	Trp	Asp	Cys	Cys	Asp	Ala	Trp	Leu	Lys	Val	Lys	His	Leu	Val	690	695	700	
Asn	Leu	Ile	Val	Met	Asp	Pro	Phe	Val	Asp	Leu	Ala	Ile	Thr	Ile	Cys	705	710	715	720
Ile	Val	Leu	Asn	Thr	Leu	Phe	Met	Ala	Met	Glu	His	Tyr	Pro	Met	Thr	725	730	735	
Glu	Gln	Phe	Ser	Ser	Val	Leu	Thr	Val	Gly	Asn	Leu	Val	Phe	Thr	Gly	740	745	750	
Ile	Phe	Thr	Ala	Glu	Met	Val	Leu	Lys	Ile	Ile	Ala	Met	Asp	Pro	Tyr	755	760	765	
Tyr	Tyr	Phe	Gln	Glu	Gly	Trp	Asn	Ile	Phe	Asp	Gly	Ile	Ile	Val	Ser	770	775	780	
Leu	Ser	Leu	Met	Glu	Leu	Gly	Leu	Ser	Asn	Val	Glu	Gly	Leu	Ser	Val	785	790	795	800
Leu	Arg	Ser	Phe	Arg	Leu	Leu	Arg	Val	Phe	Lys	Leu	Ala	Lys	Ser	Trp	805	810	815	
Pro	Thr	Leu	Asn	Met	Leu	Ile	Lys	Ile	Ile	Gly	Asn	Ser	Val	Gly	Ala	820	825	830	
Leu	Gly	Asn	Leu	Thr	Leu	Val	Leu	Ala	Ile	Ile	Val	Phe	Ile	Phe	Ala	835	840	845	

Val Val Gly Met Gln Leu Phe Gly Lys Ser Tyr Lys Glu Cys Val Cys
 850 855 860

Lys Ile Asn Asp Asp Cys Thr Leu Pro Arg Trp His Met Asn Asp Phe
 865 870 875 880

Phe His Ser Phe Leu Ile Val Phe Arg Val Leu Cys Gly Glu Trp Ile
 885 890 895

Glu Thr Met Trp Asp Cys Met Glu Val Ala Gly Gln Thr Met Cys Leu
 900 905 910

Ile Val Phe Met Leu Val Met Val Ile Gly Asn Leu Val Val Leu Asn
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Leu Phe Leu Ala Leu Leu Leu Ser Ser Phe Ser Ser Asp Asn Leu Ala
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Ala Thr Asp Asp Asp Asn Glu Met Asn Asn Leu Gln Ile Ala Val Gly
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Arg Met Gln Lys Gly Ile Asp Tyr Val Lys Asn Lys Met Arg Glu Cys
 965 970 975

Phe Gln Lys Ala Phe Phe Arg Lys Pro Lys Val Ile Glu Ile His Glu
 980 985 990

Gly Asn Lys Ile Asp Ser Cys Met Ser Asn Asn Thr Gly Ile Glu Ile
 995 1000 1005

Ser Lys Glu Leu Asn Tyr Leu Arg Asp Gly Asn Gly Thr Thr Ser
 1010 1015 1020

Gly Val Gly Thr Gly Ser Ser Val Glu Lys Tyr Val Ile Asp Glu
 1025 1030 1035

Asn Asp Tyr Met Ser Phe Ile Asn Asn Pro Ser Leu Thr Val Thr
 1040 1045 1050

Val Pro Ile Ala Val Gly Glu Ser Asp Phe Glu Asn Leu Asn Thr
 1055 1060 1065

Glu	Glu	Phe	Ser	Ser	Glu	Ser	Glu	Leu	Glu	Glu	Ser	Lys	Glu	Lys
1070						1075					1080			
Leu	Asn	Ala	Thr	Ser	Ser	Ser	Glu	Gly	Ser	Thr	Val	Asp	Val	Val
1085						1090					1095			
Leu	Pro	Arg	Glu	Gly	Glu	Gln	Ala	Glu	Thr	Glu	Pro	Glu	Glu	Asp
1100						1105					1110			
Leu	Lys	Pro	Glu	Ala	Cys	Phe	Thr	Glu	Gly	Cys	Ile	Lys	Lys	Phe
1115						1120					1125			
Pro	Phe	Cys	Gln	Val	Ser	Thr	Glu	Glu	Gly	Lys	Gly	Lys	Ile	Trp
1130						1135					1140			
Trp	Asn	Leu	Arg	Lys	Thr	Cys	Tyr	Ser	Ile	Val	Glu	His	Asn	Trp
1145						1150					1155			
Phe	Glu	Thr	Phe	Ile	Val	Phe	Met	Ile	Leu	Leu	Ser	Ser	Gly	Ala
1160						1165					1170			
Leu	Ala	Phe	Glu	Asp	Ile	Tyr	Ile	Glu	Gln	Arg	Lys	Thr	Ile	Lys
1175						1180					1185			
Thr	Met	Leu	Glu	Tyr	Ala	Asp	Lys	Val	Phe	Thr	Tyr	Ile	Phe	Ile
1190						1195					1200			
Leu	Glu	Met	Leu	Leu	Lys	Trp	Val	Ala	Tyr	Gly	Phe	Gln	Thr	Tyr
1205						1210					1215			
Phe	Thr	Asn	Ala	Trp	Cys	Trp	Leu	Asp	Phe	Leu	Ile	Val	Asp	Val
1220						1225					1230			
Ser	Leu	Val	Ser	Leu	Val	Ala	Asn	Ala	Leu	Gly	Tyr	Ser	Glu	Leu
1235						1240					1245			
Gly	Ala	Ile	Lys	Ser	Leu	Arg	Thr	Leu	Arg	Ala	Leu	Arg	Pro	Leu
1250						1255					1260			
Arg	Ala	Leu	Ser	Arg	Phe	Glu	Gly	Met	Arg	Val	Val	Val	Asn	Ala
1265						1270					1275			
Leu	Val	Gly	Ala	Ile	Pro	Ser	Ile	Met	Asn	Val	Leu	Leu	Val	Cys

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Leu Ile Phe Trp Leu Ile Phe Ser Ile Met Gly Val Asn Leu Phe	1295	1300		1305
Ala Gly Lys Phe Tyr His Cys Val Asn Met Thr Thr Gly Asn Met	1310	1315		1320
Phe Asp Ile Ser Asp Val Asn Asn Leu Ser Asp Cys Gln Ala Leu	1325	1330		1335
Gly Lys Gln Ala Arg Trp Lys Asn Val Lys Val Asn Phe Asp Asn	1340	1345		1350
Val Gly Ala Gly Tyr Leu Ala Leu Leu Gln Val Ala Thr Phe Lys	1355	1360		1365
Gly Trp Met Asp Ile Met Tyr Ala Ala Val Asp Ser Arg Asp Val	1370	1375		1380
Lys Leu Gln Pro Val Tyr Glu Glu Asn Leu Tyr Met Tyr Leu Tyr	1385	1390		1395
Phe Val Ile Phe Ile Ile Phe Gly Ser Phe Phe Thr Leu Asn Leu	1400	1405		1410
Phe Ile Gly Val Ile Ile Asp Asn Phe Asn Gln Gln Lys Lys Lys	1415	1420		1425
Phe Gly Gly Gln Asp Ile Phe Met Thr Glu Glu Gln Lys Lys Tyr	1430	1435		1440
Tyr Asn Ala Met Lys Lys Leu Gly Ser Lys Lys Pro Gln Lys Pro	1445	1450		1455
Ile Pro Arg Pro Ala Asn Lys Phe Gln Gly Met Val Phe Asp Phe	1460	1465		1470
Val Thr Arg Gln Val Phe Asp Ile Ser Ile Met Ile Leu Ile Cys	1475	1480		1485
Leu Asn Met Val Thr Met Met Val Glu Thr Asp Asp Gln Gly Lys	1490	1495		1500

Tyr Met	Thr Leu Val	Leu Ser	Arg Ile Asn	Leu Val	Phe Ile Val
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Leu Phe	Thr Gly Glu Phe	Val	Leu Lys Leu Val	Ser	Leu Arg His
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Tyr Tyr	Phe Thr Ile Gly	Trp	Asn Ile Phe Asp	Phe	Val Val Val
1535		1540		1545	
Ile Leu	Ser Ile Val Gly	Met	Phe Leu Ala Glu	Met	Ile Glu Lys
1550		1555		1560	
Tyr Phe	Val Ser Pro Thr	Leu	Phe Arg Val Ile	Arg	Leu Ala Arg
1565		1570		1575	
Ile Gly	Arg Ile Leu Arg	Leu	Ile Lys Gly Ala	Lys	Gly Ile Arg
1580		1585		1590	
Thr Leu	Leu Phe Ala Leu	Met	Met Ser Leu Pro	Ala	Leu Phe Asn
1595		1600		1605	
Ile Gly	Leu Leu Leu Phe	Leu	Val Met Phe Ile	Tyr	Ala Ile Phe
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Gly Met	Ser Asn Phe Ala	Tyr	Val Lys Lys Glu	Ala	Gly Ile Asp
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Asp Met	Phe Asn Phe Glu	Thr	Phe Gly Asn Ser	Met	Ile Cys Leu
1640		1645		1650	
Phe Gln	Ile Thr Thr Ser	Ala	Gly Trp Asp Gly	Leu	Leu Ala Pro
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Ile Leu	Asn Ser Ala Pro	Pro	Asp Cys Asp Pro	Asp	Thr Ile His
1670		1675		1680	
Pro Gly	Ser Ser Val Lys	Gly	Asp Cys Gly Asn	Pro	Ser Val Gly
1685		1690		1695	
Ile Phe	Phe Phe Val Ser	Tyr	Ile Ile Ile Ser	Phe	Leu Val Val
1700		1705		1710	

Val Asn Ser Tyr Ile Ala	Val Ile Leu Glu Asn Phe	Ser Val Ala
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Thr Glu Glu Ser Ala Glu	Pro Leu Ser Glu Asp Asp	Phe Glu Met
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Phe Tyr Glu Val Trp Glu	Lys Phe Asp Pro Asp Ala	Thr Gln Phe
1745	1750	1755
Ile Glu Phe Ser Lys Leu	Ser Asp Phe Ala Ala Ala	Leu Asp Pro
1760	1765	1770
Pro Leu Leu Ile Ala Lys	Pro Asn Lys Val Gln Leu	Ile Ala Met
1775	1780	1785
Asp Leu Pro Met Val Ser	Gly Asp Arg Ile His Cys	Leu Asp Ile
1790	1795	1800
Leu Phe Ala Phe Thr Lys	Arg Val Leu Gly Glu Ser	Gly Glu Met
1805	1810	1815
Asp Ala Leu Arg Ile Gln	Met Glu Asp Arg Phe Met	Ala Ser Asn
1820	1825	1830
Pro Ser Lys Val Ser Tyr	Glu Pro Ile Thr Thr Thr	Leu Lys Arg
1835	1840	1845
Lys Gln Glu Glu Val Ser	Ala Ala Ile Ile Gln Arg	Asn Phe Arg
1850	1855	1860
Cys Tyr Leu Leu Lys Gln	Arg Leu Lys Asn Ile Ser	Ser Asn Tyr
1865	1870	1875
Asn Lys Glu Ala Ile Lys	Gly Arg Ile Asp Leu Pro	Ile Lys Gln
1880	1885	1890
Asp Met Ile Ile Asp Lys	Leu Asn Gly Asn Ser Thr	Pro Glu Lys
1895	1900	1905
Thr Asp Gly Ser Ser Ser	Thr Thr Ser Pro Pro Ser	Tyr Asp Ser
1910	1915	1920

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 1925 1930 1935

Lys Glu Ser Lys Gly Lys Glu Val Arg Glu Asn Gln Lys
 1940 1945 1950

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Phe Thr Arg Glu Ser Leu Ala Ala Ile Glu Lys Arg Ala Ala Glu Glu
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Lys Ala Lys Lys Pro Lys Lys Glu Gln Asp Asn Asp Asp Glu Asn Lys
 35 40 45

Pro Lys Pro Asn Ser Asp Leu Glu Ala Gly Lys Asn Leu Pro Phe Ile
 50 55 60

Tyr Gly Asp Ile Pro Pro Glu Met Val Ser Glu Pro Leu Glu Asp Leu
 65 70 75 80

Asp Pro Tyr Tyr Ile Asn Lys Lys Thr Phe Ile Val Met Asn Lys Gly
 85 90 95

Lys Ala Ile Ser Arg Phe Ser Ala Thr Ser Ala Leu Tyr Ile Leu Thr
 100 105 110

Pro Leu Asn Pro Val Arg Lys Ile Ala Xaa Lys Ile Leu Val His Ser
 115 120 125

Leu Phe Ser Met Leu Ile Met Cys Thr Ile Leu Thr Asn Cys Val Phe
 130 135 140

Met Thr Leu Ser Asn Pro Pro Asp Trp Thr Lys Asn Val Glu Tyr Thr
 145 150 155 160

Phe Thr Gly Ile Tyr Thr Phe Glu Ser Leu Ile Lys Ile Leu Ala Arg
 165 170 175

Gly Phe Cys Leu Glu Asp Phe Thr Phe Leu Arg Asp Pro Trp Asn Trp
 180 185 190

Leu Asp Phe Ser Val Ile Val Met Ala Tyr Val Thr Glu Phe Val Ser
 195 200 205

Leu Gly Asn Val Ser Ala Leu Arg Thr Phe Arg Val Leu Arg Ala Leu
 210 215 220

Lys Thr Ile Ser Val Ile Pro Gly Leu Lys Thr Ile Val Gly Ala Leu
 225 230 235 240

Ile Gln Ser Val Lys Lys Leu Ser Asp Val Met Ile Leu Thr Val Phe
 245 250 255

Cys Leu Ser Val Phe Ala Leu Ile Gly Leu Gln Leu Phe Met Gly Asn
 260 265 270

Leu Arg Asn Lys Cys Leu Gln Trp Pro Pro Ser Asp Ser Ala Phe Glu
 275 280 285

Thr Asn Thr Thr Ser Tyr Phe Asn Gly Thr Met Asp Ser Asn Gly Thr
 290 295 300

Phe Val Asn Val Thr Met Ser Thr Phe Asn Trp Lys Asp Tyr Ile Gly
 305 310 315 320

Asp Asp Ser His Phe Tyr Val Leu Asp Gly Gln Lys Asp Pro Leu Leu
 325 330 335

Cys Gly Asn Gly Ser Asp Ala Gly Gln Cys Pro Glu Gly Tyr Ile Cys
 340 345 350

Val Lys Ala Gly Arg Asn Pro Asn Tyr Gly Tyr Thr Ser Phe Asp Thr
 355 360 365

Phe Ser Trp Ala Phe Leu Ser Leu Phe Arg Leu Met Thr Gln Asp Tyr

370	375	380
Trp Glu Asn Leu Tyr Gln Leu Thr Leu Arg Ala Ala Gly Lys Thr Tyr		
385	390	395 400
Met Ile Phe Phe Val Leu Val Ile Phe Leu Gly Ser Phe Tyr Leu Val		
	405	410 415
Asn Leu Ile Leu Ala Val Val Ala Met Ala Tyr Glu Gly Gln Asn Gln		
	420	425 430
Ala Thr Leu Glu Glu Ala Glu Gln Lys Glu Ala Glu Phe Gln Gln Met		
	435	440 445
Leu Glu Gln Leu Lys Lys Gln Gln Glu Glu Ala Gln Ala Val Ala Ala		
	450	455 460
Ala Ser Ala Ala Ser Arg Asp Phe Ser Gly Ile Gly Gly Leu Gly Glu		
465	470	475 480
Leu Leu Glu Ser Ser Ser Glu Ala Ser Lys Leu Ser Ser Lys Ser Ala		
	485	490 495
Lys Glu Trp Arg Asn Arg Arg Lys Lys Arg Arg Gln Arg Glu His Leu		
	500	505 510
Glu Gly Asn Asn Lys Gly Glu Arg Asp Ser Phe Pro Lys Ser Glu Ser		
	515	520 525
Glu Asp Ser Val Lys Arg Ser Ser Phe Leu Phe Ser Met Asp Gly Asn		
	530	535 540
Arg Leu Thr Ser Asp Lys Lys Phe Cys Ser Pro His Gln Ser Leu Leu		
545	550	555 560
Ser Ile Arg Gly Ser Leu Phe Ser Pro Arg Arg Asn Ser Lys Thr Ser		
	565	570 575
Ile Phe Ser Phe Arg Gly Arg Ala Lys Asp Val Gly Ser Glu Asn Asp		
	580	585 590
Phe Ala Asp Asp Glu His Ser Thr Phe Glu Asp Ser Glu Ser Arg Arg		
	595	600 605

Asp	Ser	Leu	Phe	Val	Pro	His	Arg	His	Gly	Glu	Arg	Arg	Asn	Ser	Asn	610	615	620
Gly	Thr	Thr	Thr	Glu	Thr	Glu	Val	Arg	Lys	Arg	Arg	Leu	Ser	Ser	Tyr	625	630	635
Gln	Ile	Ser	Met	Glu	Met	Leu	Glu	Asp	Ser	Ser	Gly	Arg	Gln	Arg	Ala	645	650	655
Val	Ser	Ile	Ala	Ser	Ile	Leu	Thr	Asn	Thr	Met	Glu	Glu	Leu	Glu	Glu	660	665	670
Ser	Arg	Gln	Lys	Cys	Pro	Pro	Cys	Trp	Tyr	Arg	Phe	Ala	Asn	Val	Phe	675	680	685
Leu	Ile	Trp	Asp	Cys	Cys	Asp	Ala	Trp	Leu	Lys	Val	Lys	His	Leu	Val	690	695	700
Asn	Leu	Ile	Val	Met	Asp	Pro	Phe	Val	Asp	Leu	Ala	Ile	Thr	Ile	Cys	705	710	715
Ile	Val	Leu	Asn	Thr	Leu	Phe	Met	Ala	Met	Glu	His	Tyr	Pro	Met	Thr	725	730	735
Glu	Gln	Phe	Ser	Ser	Val	Leu	Thr	Val	Gly	Asn	Leu	Val	Phe	Thr	Gly	740	745	750
Ile	Phe	Thr	Ala	Glu	Met	Val	Leu	Lys	Ile	Ile	Ala	Met	Asp	Pro	Tyr	755	760	765
Tyr	Tyr	Phe	Gln	Glu	Gly	Trp	Asn	Ile	Phe	Asp	Gly	Ile	Ile	Val	Ser	770	775	780
Leu	Ser	Leu	Met	Glu	Leu	Gly	Leu	Ser	Asn	Val	Glu	Gly	Leu	Ser	Val	785	790	795
Leu	Arg	Ser	Phe	Arg	Leu	Leu	Arg	Val	Phe	Lys	Leu	Ala	Lys	Ser	Trp	805	810	815
Pro	Thr	Leu	Asn	Met	Leu	Ile	Lys	Ile	Ile	Gly	Asn	Ser	Val	Gly	Ala	820	825	830

Leu Gly Asn Leu Thr Leu Val Leu Ala Ile Ile Val Phe Ile Phe Ala
835 840 845

Val Val Gly Met Gln Leu Phe Gly Lys Ser Tyr Lys Glu Cys Val Cys
850 855 860

Lys Ile Asn Asp Asp Cys Thr Leu Pro Arg Trp His Met Asn Asp Phe
865 870 875 880

Phe His Ser Phe Leu Ile Val Phe Arg Val Leu Cys Gly Glu Trp Ile
885 890 895

Glu Thr Met Trp Asp Cys Met Glu Val Ala Gly Gln Thr Met Cys Leu
900 905 910

Ile Val Phe Met Leu Val Met Val Ile Gly Asn Leu Val Val Leu Asn
915 920 925

Leu Phe Leu Ala Leu Leu Leu Ser Ser Phe Ser Ser Asp Asn Leu Ala
930 935 940

Ala Thr Asp Asp Asp Asn Glu Met Asn Asn Leu Gln Ile Ala Val Gly
945 950 955 960

Arg Met Gln Lys Gly Ile Asp Tyr Val Lys Asn Lys Met Arg Glu Cys
965 970 975

Phe Gln Lys Ala Phe Phe Arg Lys Pro Lys Val Ile Glu Ile His Glu
980 985 990

Gly Asn Lys Ile Asp Ser Cys Met Ser Asn Asn Thr Gly Ile Glu Ile
995 1000 1005

Ser Lys Glu Leu Asn Tyr Leu Arg Asp Gly Asn Gly Thr Thr Ser
1010 1015 1020

Gly Val Gly Thr Gly Ser Ser Val Glu Lys Tyr Val Ile Asp Glu
1025 1030 1035

Asn Asp Tyr Met Ser Phe Ile Asn Asn Pro Ser Leu Thr Val Thr
1040 1045 1050

Val	Pro	Ile	Ala	Val	Gly	Glu	Ser	Asp	Phe	Glu	Asn	Leu	Asn	Thr
1055						1060					1065			
Glu	Glu	Phe	Ser	Ser	Glu	Ser	Glu	Leu	Glu	Glu	Ser	Lys	Glu	Lys
1070						1075					1080			
Leu	Asn	Ala	Thr	Ser	Ser	Ser	Glu	Gly	Ser	Thr	Val	Asp	Val	Val
1085						1090					1095			
Leu	Pro	Arg	Glu	Gly	Glu	Gln	Ala	Glu	Thr	Glu	Pro	Glu	Glu	Asp
1100						1105					1110			
Leu	Lys	Pro	Glu	Ala	Cys	Phe	Thr	Glu	Gly	Cys	Ile	Lys	Lys	Phe
1115						1120					1125			
Pro	Phe	Cys	Gln	Val	Ser	Thr	Glu	Glu	Gly	Lys	Gly	Lys	Ile	Trp
1130						1135					1140			
Trp	Asn	Leu	Arg	Lys	Thr	Cys	Tyr	Ser	Ile	Val	Glu	His	Asn	Trp
1145						1150					1155			
Phe	Glu	Thr	Phe	Ile	Val	Phe	Met	Ile	Leu	Leu	Ser	Ser	Gly	Ala
1160						1165					1170			
Leu	Ala	Phe	Glu	Asp	Ile	Tyr	Ile	Glu	Gln	Arg	Lys	Thr	Ile	Lys
1175						1180					1185			
Thr	Met	Leu	Glu	Tyr	Ala	Asp	Lys	Val	Phe	Thr	Tyr	Ile	Phe	Ile
1190						1195					1200			
Leu	Glu	Met	Leu	Leu	Lys	Trp	Val	Ala	Tyr	Gly	Phe	Gln	Thr	Tyr
1205						1210					1215			
Phe	Thr	Asn	Ala	Trp	Cys	Trp	Leu	Asp	Phe	Leu	Ile	Val	Asp	Val
1220						1225					1230			
Ser	Leu	Val	Ser	Leu	Val	Ala	Asn	Ala	Leu	Gly	Tyr	Ser	Glu	Leu
1235						1240					1245			
Gly	Ala	Ile	Lys	Ser	Leu	Arg	Thr	Leu	Arg	Ala	Leu	Arg	Pro	Leu
1250						1255					1260			
Arg	Ala	Leu	Ser	Arg	Phe	Glu	Gly	Met	Arg	Val	Val	Val	Asn	Ala

1265		1270		1275
Leu Val	Gly Ala Ile Pro Ser	Ile Met Asn Val	Leu	Leu Val Cys
1280		1285		1290
Leu Ile	Phe Trp Leu Ile Phe	Ser Ile Met Gly	Val	Asn Leu Phe
1295		1300		1305
Ala Gly	Lys Phe Tyr His Cys	Val Asn Met Thr	Thr	Gly Asn Met
1310		1315		1320
Phe Asp	Ile Ser Asp Val Asn	Asn Leu Ser Asp	Cys	Gln Ala Leu
1325		1330		1335
Gly Lys	Gln Ala Arg Trp Lys	Asn Val Lys Val	Asn	Phe Asp Asn
1340		1345		1350
Val Gly	Ala Gly Tyr Leu Ala	Leu Leu Gln Val	Ala	Thr Phe Lys
1355		1360		1365
Gly Trp	Met Asp Ile Met Tyr	Ala Ala Val Asp	Ser	Arg Asp Val
1370		1375		1380
Lys Leu	Gln Pro Val Tyr Glu	Glu Asn Leu Tyr	Met	Tyr Leu Tyr
1385		1390		1395
Phe Val	Ile Phe Ile Ile Phe	Gly Ser Phe Phe	Thr	Leu Asn Leu
1400		1405		1410
Phe Ile	Gly Val Ile Ile Asp	Asn Phe Asn Gln	Gln	Lys Lys Lys
1415		1420		1425
Phe Gly	Gly Gln Asp Ile Phe	Met Thr Glu Glu	Gln	Lys Lys Tyr
1430		1435		1440
Tyr Asn	Ala Met Lys Lys Leu	Gly Ser Lys Lys	Pro	Gln Lys Pro
1445		1450		1455
Ile Pro	Arg Pro Ala Asn Lys	Phe Gln Gly Met	Val	Phe Asp Phe
1460		1465		1470
Val Thr	Arg Gln Val Phe Asp	Ile Ser Ile Met	Ile	Leu Ile Cys
1475		1480		1485

Leu	Asn	Met	Val	Thr	Met	Met	Val	Glu	Thr	Asp	Asp	Gln	Gly	Lys
1490						1495					1500			
Tyr	Met	Thr	Leu	Val	Leu	Ser	Arg	Ile	Asn	Leu	Val	Phe	Ile	Val
1505						1510					1515			
Leu	Phe	Thr	Gly	Glu	Phe	Val	Leu	Lys	Leu	Val	Ser	Leu	Arg	His
1520						1525					1530			
Tyr	Tyr	Phe	Thr	Ile	Gly	Trp	Asn	Ile	Phe	Asp	Phe	Val	Val	Val
1535						1540					1545			
Ile	Leu	Ser	Ile	Val	Gly	Met	Phe	Leu	Ala	Glu	Met	Ile	Glu	Lys
1550						1555					1560			
Tyr	Phe	Val	Ser	Pro	Thr	Leu	Phe	Arg	Val	Ile	Arg	Leu	Ala	Arg
1565						1570					1575			
Ile	Gly	Arg	Ile	Leu	Arg	Leu	Ile	Lys	Gly	Ala	Lys	Gly	Ile	Arg
1580						1585					1590			
Thr	Leu	Leu	Phe	Ala	Leu	Met	Met	Ser	Leu	Pro	Ala	Leu	Phe	Asn
1595						1600					1605			
Ile	Gly	Leu	Leu	Leu	Phe	Leu	Val	Met	Phe	Ile	Tyr	Ala	Ile	Phe
1610						1615					1620			
Gly	Met	Ser	Asn	Phe	Ala	Tyr	Val	Lys	Lys	Glu	Ala	Gly	Ile	Asp
1625						1630					1635			
Asp	Met	Phe	Asn	Phe	Glu	Thr	Phe	Gly	Asn	Ser	Met	Ile	Cys	Leu
1640						1645					1650			
Phe	Gln	Ile	Thr	Thr	Ser	Ala	Gly	Trp	Asp	Gly	Leu	Leu	Ala	Pro
1655						1660					1665			
Ile	Leu	Asn	Ser	Ala	Pro	Pro	Asp	Cys	Asp	Pro	Asp	Thr	Ile	His
1670						1675					1680			
Pro	Gly	Ser	Ser	Val	Lys	Gly	Asp	Cys	Gly	Asn	Pro	Ser	Val	Gly
1685						1690					1695			

Ile Phe	Phe Phe Val Ser Tyr	Ile Ile Ile Ser Phe	Leu Val Val
1700	1705	1710	
Val Asn	Ser Tyr Ile Ala Val	Ile Leu Glu Asn Phe	Ser Val Ala
1715	1720	1725	
Thr Glu	Glu Ser Ala Glu Pro	Leu Ser Glu Asp Asp	Phe Glu Met
1730	1735	1740	
Phe Tyr	Glu Val Trp Glu Lys	Phe Asp Pro Asp Ala	Thr Gln Phe
1745	1750	1755	
Ile Glu	Phe Ser Lys Leu Ser	Asp Phe Ala Ala Ala	Leu Asp Pro
1760	1765	1770	
Pro Leu	Leu Ile Ala Lys Pro	Asn Lys Val Gln Leu	Ile Ala Met
1775	1780	1785	
Asp Leu	Pro Met Val Ser Gly	Asp Arg Ile His Cys	Leu Asp Ile
1790	1795	1800	
Leu Phe	Ala Phe Thr Lys Arg	Val Leu Gly Glu Ser	Gly Glu Met
1805	1810	1815	
Asp Ala	Leu Arg Ile Gln Met	Glu Asp Arg Phe Met	Ala Ser Asn
1820	1825	1830	
Pro Ser	Lys Val Ser Tyr Glu	Pro Ile Thr Thr Thr	Leu Lys Arg
1835	1840	1845	
Lys Gln	Glu Glu Val Ser Ala	Ala Ile Ile Gln Arg	Asn Phe Arg
1850	1855	1860	
Cys Tyr	Leu Leu Lys Gln Arg	Leu Lys Asn Ile Ser	Ser Asn Tyr
1865	1870	1875	
Asn Lys	Glu Ala Ile Lys Gly	Arg Ile Asp Leu Pro	Ile Lys Gln
1880	1885	1890	
Asp Met	Ile Ile Asp Lys Leu	Asn Gly Asn Ser Thr	Pro Glu Lys
1895	1900	1905	

Thr Asp Gly Ser Ser Ser Thr Thr Ser Pro Pro Ser Tyr Asp Ser
 1910 1915 1920

Val Thr Lys Pro Asp Lys Glu Lys Phe Glu Lys Asp Lys Pro Glu
 1925 1930 1935

Lys Glu Ser Lys Gly Lys Glu Val Arg Glu Asn Gln Lys
 1940 1945 1950

<210> 69
 <211> 1380
 <212> DNA
 <213> Homo sapiens

<400> 69
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 gatatgaaag gtcagatgaa acaataacat acatctggat tgagaaatat cttaataact 120
 gatggattat ttttattttc tttatgtatt gtgtgcttca atatcctaataa aaataatatt 180
 agctagggtc actgatgtat agaatctttt tctacattta gatattttctt gcaaagtgtt 240
 taccagaaag caacacaaaa atactatcag tgagtatgtg tttacactgt tctctaagga 300
 gtcaaattcc tcaccttgaa aataattcat cccaggaaga gaaaagggtt tcaaaagact 360
 agagcaggcc acaagggagc tttcgcaaaa ctctacacgt aaagggtaat gtaaaacttaa 420
 aacctatttt tcaaacagta atttatatat cttttaattt tagtagttta tgtgtgaaac 480
 aatcatgcaa aacaacaaag tgataaaatt ttttaaaaaa attagtgaga tgcaaataac 540
 tgaatatgta aaagggtctca tacatatatta tatgtagtag ataagttaca tttttttagt 600
 gtgttgggaa attttagctc acatcacctc tctactgtca tcttggggca ctttcatgac 660
 taccatgct tcatgcaggc ttactttcct ccctgtgaca gaggataatg ggaatgtttt 720
 ttctttggct caattttgtg tgtgtccgcc agtagatggc gtaccacttt gagtgcgac 780
 ggctttttt tctttctttt tttttttcct caaagctgtt ttctgatata tgttgggtac 840
 catagagtga atctcagaac aggaagcgga ggcataagca gagaggattc tggaaaggctc 900
 tctttgtttt cttatccaca gagaaagaaa gaaaaaaaaat tgtaactaat ttgtaaacct 960
 ctgtgggtcaa aaaaaaaaaa aaaaaaaaaa gctgaacagc tgcagaggaa gacacgttat 1020
 accctaacca tcttggatgc tgggctttgt tatgctgtaa ttcataaggc tctgttttat 1080
 caggtaagct gacaaaacat ttcattatct gcaccataga acctagctac caggtcattt 1140
 tccttacttt aaaatcatct tcatgctgct atttttaacc cagtgttggt taaatgtaaa 1200

ttacaggaac caaaggcatc gtttgatgtg taaactgctt actatttctt tatctttcaa	1260
agaaaataga gcctgtctgg aaatggtgat ttatggtaca tactaggcat caatggtctt	1320
gtgtttttgt agatgcttat gattaattgt attcagaaaa aatatttttt attataactta	1380

<210> 70
 <211> 840
 <212> DNA
 <213> Homo sapiens

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aaggctgcca aagaaggggg agcaccctg tcccaaccct aggatcctgg cagtggttcc	120
tggtcccatt cttcctaaat catgctaggg catgctttta acaaggggtca aatatcttgc	180
tttgcacatc ctttgctttc tcgatccagg gccataaaaa aaaaaggaat aaaaccaga	240
cacagagcca gagcaccct atgccaaatg tcaaagatta taggctaatt tcacctgtat	300
tctctttcta cagagattat ggagcaagaa aactgaagcc aagccacatc aaggtttgac	360
agggatgaga tacctgtcaa ggattcatag tagagtggct tactgggaaa ggagcaaaga	420
atctcttcta gggatattgt aagaataaat gagataattc acagaaggga cctggagctt	480
ttccggaaaa aggtgctgtg actatctaag gtaactaaac aacttctggg tataagtttg	540
tttttgtgga aaataaacta aaatctctac tatttaacaa ggacagctgt atcaggacca	600
aaagaaggca gaggggtgtt ttcttccttc ctctaccagt ttgttcttcc aaagaggcaa	660
atacatacag ggagacatag cacagatgac cttaggggaat ggaatgatgc caaaggctgt	720
tgatgtaaga aagagagatt aactcagttt ttttttgtt tttgtttttt tgttgttgtt	780
gttgttgttt tgagacagag tctctctctg tcgcccaggc tggagtgcag tggcatgaac	840

<210> 71
 <211> 780
 <212> DNA
 <213> Homo sapiens

<400> 71	
gatatattaa attttatgta ttttaataaa ttataatgtg catataatca ttaataatat	60
atatattcca caccaaggca tcagtaagaa ttaattttta aagtctgctc taatgtgaat	120
ataaaattat gtaagaactc tgtataataa gctcacagag tacaagaaag gagaggaaaa	180
aagtaaaaga gaactgcgaa agaactatga gggatttcca aacagcaaaa ttgtcattga	240

agccatgaga aactctactc actaaattct ttaattttctc agcctaccca aatattgggc	300
aaaccctaata tctcttgagc gggaaaagct gagagtctgg aactagccta tcttccgagg	360
acttagagac aacagtatgg gaatttcaac gagacgtttt tactttcttt tgaccaagat	420
tcaaattctt tattccagcc cttgataagt aaataagaag gtaaaggact atttatttgt	480
aaaaagtttt tcatgatttt gtgatggcac cttgttccat atcatctcag ataaatcaga	540
ataatttgtg aaaattactc ggtgatttcc acattagata ttttaaacct aatgttattt	600
ctaaaacaaa aaccaaccag gagaatccaa ttaagtaaaa tgtatgtatt aatataaatt	660
agctattccc atctggaaaa gggcagccat ttctgtgttg aggtgcctca atgatactga	720
ggctgagaca ggtagatga tacaggcata ccattagcag cagactcaat actaaccag	780

<210> 72
 <211> 1025
 <212> DNA
 <213> Homo sapiens

<400> 72	
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ctthactggc attactcttt tgctgaaagt atactatatt ttggcttaca gtgtcaaaac	120
agaatTTTTT aaatgctttt aaaaaatgga caaaattata gatattcttg agtttaaata	180
taatgtttat atattatata tactgtacat tgtagaatgg ctaaataaaa ctaattaaca	240
ttaagtacag acttttgata gatttatgaa cttggcttat tgagaatgag gttgaatgat	300
gatgttttca agttcaaatg tgtagtgcag tactaaaagc atgacttaat gtttatagct	360
ttaaaaagtt actaaagaat gacatttttg ttgatgttct tatgccaat cgcttgcttt	420
cctaactctt gtgcaatttt tctttttatt gcaggtaatt cgtatgcaag aagctacacg	480
taattaaatg tgcaggatga aaagatggca caggcactgt tggtaacccc aggacctgaa	540
agcttccgcc tttttactag agaattctct gctgctatcg aaaaacgtgc tgcagaagag	600
aaagccaaga agcccaaaaa ggaacaagat aatgatgatg agaacaaacc aaagccaaat	660
agtgacttgg aagctggaaa gaaccttcca tttatttatg gagacattcc tccagagatg	720
gtgtcagagc ccctggagga cctggatccc tactatatca ataagaaagt gagtattgat	780
tttagacttc taataaatct ttaatgaaac tcttaactgt aatatacttt tctgggcctt	840
atatacagca tcacaatttt tcttctgtta aagattttat aatactcttc actgtcactt	900
atTTTTatca caatataata aaacaaacat ttataagaaa tgaagtcaag agttgggttac	960

agtcaggaaa tatgaataga tgaatgattt ctacaatttc acagtgataa ttcagatagt 1020
caaaa 1025

<210> 73
<211> 433
<212> DNA
<213> Homo sapiens

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tgtaacyata tgttaattta aacatctaac atgtttgtag ttatgatata tcaactgggt 60
taaacaaacc agtttgaaca aacaaattcy attttttaaa aaggtcctca tgtatgtaag 120
ctccttaaat aagcccatgt ctaatttagt aattttactc gtattttctg tttcagactt 180
ttatagtaat gaataaagga aaggcaattt cccgattcag tgccacctct gccttgata 240
ttttaactcc actaaaccct gttaggaaaa ttgctabsaa gattttggta cattcatatc 300
cttttaatgt gaattgccta aatgctattt ctaacagttg attttaaaga aaatgtcagt 360
tatattttca agtatctgta aaatttcttt gagattaatg gtaacattgt tagtttaatt 420
catttatttg cat 433

<210> 74
<211> 450
<212> DNA
<213> Homo sapiens

<400> 74
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aacaaataat attaatcca cagtttttgc atcgataaac ttttttgtgt gttttggatc 120
atttataaat ggccatggta acctactaac atttattcct taactataat ctactttatt 180
cagcatgctt atcatgtgca ctattttgac caactgtgta tttatgacct tgagcaaccc 240
tcctgactgg acaaagaatg tagagtaagt aggaataact tctgggaatg agaaatgcac 300
actcaaattc tctagcaatc tccttggtggg tatagcctga cttatgggtt ccacttctgt 360
ctaagaaaag ttattttcat aatatgcagc cggtaaggga ggtctttcgg gggagctatt 420
cttctacgag gtaagtattt tcccacaaaa 450

<210> 75
<211> 701
<212> DNA
<213> Homo sapiens

<400> 75

aaaatttacc atttgyggct ttccattaca tttctatcag ataactctgc gctagtaggt	60
caaactagat gattatccat aagatacatg aaactattat tctaaaaccc aaataggttaa	120
accagattag attcctaaag aatatatattt ctcttcagtt taactctttg ctcaggcttg	180
taaaactaac taaatgaata gattatattgg taaatagaag taaggaacaa tattttaatg	240
aattgaaaaa ccacaaaagg ataggatttg ctatgattga aaacatttat tttaacagtt	300
caagcaaaat tgttaatttt ggcttggatg tttttcctag gtacacattc actggaatct	360
atacctttga gtcacttata aaaatcttgg caagaggggtt ttgcttagaa gattttacgt	420
ttcttcgtga tccatggaac tggctggatt tcagtgtcat tgtgatggcg tgagtaactt	480
tgaaaatttg ataagcgcaa aggagtgaag atagtcatag tacaacaag gtcttttgtg	540
catatattaa atgtagagct ttcttggttag tcaagttaac tatatggggt gtgtattttc	600
agaatacata ttagaatata tattgcaatg taaatatatc cagtaaatga tcaataaatg	660
gggttatctt catgtcatat agtctttctc ttcatcaaaa t	701

<210> 76
 <211> 286
 <212> DNA
 <213> Homo sapiens

<400> 76	
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aactttgcc aaactatcag taactctgat ttaattctgc aggtatgtaa cagaatttgt	120
aagcctaggc aatgtttcag cccttcgaac tttcagagtc ttgagagctc tgaaaactat	180
ttctgtaatc ccaggtaaga agaaactggg gtaaggtagt aggccctta tatctccaac	240
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<210> 77
 <211> 515
 <212> DNA
 <213> Homo sapiens

<400> 77	
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attgtgtttg tgtgtgaact cccctattac agatatgtga cagagtttgt ggacctgggc	120
aatgtctcag cgttgagaac attcagagtt ctccgagcac tgaaaacaat ttcagtcatt	180
ccaggtgaga gctagggttaa acaccgaggt tgactttaat tattgagttt gaaatcaatt	240
tatatgactt acagcattag cttgttgct tattattaca gttcatcccg gtaaataatg	300

cctaatgatg tttcaatgtc agtttagctc ctaaaatttt ataaattaca tgcgtattta	360
taaagtcagc ctttgagttt aacagaaaat tgcagagac atcttcaaaa aatgctaatt	420
tgggcctctt gcgctctctc tctctctttt tcactaccat ggctttacta acagatttgg	480
attttaccat tcgctgcaga tgtagttcaa aaatg	515

<210> 78
 <211> 564
 <212> DNA
 <213> Homo sapiens

<400> 78	
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gtgtaaaatc tgctgttcat ctatttccca aatcatcagg ctatccatac agctttggtg	120
tctaaatagt caagcaatca tttatggggg aaagagaatg tgtgtgacta ttaagaaatc	180
atgattttctg gcactcttcc tcaggtaacc tatagttctc tctctgcagg tttaaagacc	240
attgtggggg ccctgatcca gtcggtaaag aagctttctg atgtgatgat cctgactgtg	300
ttctgtctga gcgtgtttgc tctcattggg ctgcagctgt tcatgggcaa tctgaggaat	360
aatgtttgc agtggccccc aagcgattct gcttttgaaa ccaacaccac ttctacttt	420
aatggcaciaa tggattcaaa tgggacattt gttaatgtaa caatgagcac atttaactgg	480
aaggataaca ttggagatga cagtaagaag tattacatta tgtaaacctt agtggtgctg	540
aatgaatttt caactataaa tagt	564

<210> 79
 <211> 497
 <212> DNA
 <213> Homo sapiens

<400> 79	
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tactaatact aatgtgaata ggattaatat gaaataaaaat ggggtttttt ttgtattaac	120
aggtcacttt tatgttttgg atgggcaaaa agacccttta ctctgtggaa atggttcaga	180
tgcagggtaa gaaacataat atatattttt aagatataga actctttgcg aaaaaaaaaa	240
gtaggtagga aaacaactac atggttatat gtgtagcctt accatgtatg caataaagag	300
cagtgtctgt cccctaggaa gtgccttgtc tgccttaccg gattgccact ggtcctaaac	360
tcacagcaat taaaaattat ccctttgtga agacctttcc ccaaaatttc acagttaaga	420

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tcagagctgt	taggaaa					497

<210> 80
 <211> 501
 <212> DNA
 <213> Homo sapiens

<400> 80						
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tcatctgata	agtttccacg	tgggcaatca	cctaaagtgt	tctggaaatt	aaagcaagat	180
aattcgtcac	agatagcagc	tttgggtttt	gaaaattcct	ataagtcaaa	taaattgaaa	240
ttgctgtaat	ttctaaactg	accctacctc	catttctctc	tcttatagcc	agtgtccaga	300
aggatacatc	tgtgtgaagg	ctggtcgaaa	ccccaaactat	ggctacacaa	gctttgacac	360
cttttagctgg	gctttcctgt	ctctatttcg	actcatgact	caagactact	gggaaaatct	420
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aatgaaaagc	ataggctgag	t				501

<210> 81
 <211> 432
 <212> DNA
 <213> Homo sapiens

<400> 81						
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catacatgat	attttttgtc	ctggtcattt	tcttgggctc	atttttatttg	gtgaatttga	180
tcttggctgt	ggtggccatg	gcctatgagg	ggcagaatca	ggccaccttg	gaagaagcag	240
aacaaaaaga	ggccgaattt	cagcagatgc	tcgaacagct	taaaaagcaa	caggaagaag	300
ctcaggtact	gagtgataaa	mgcaaagatt	tatcattatt	attmmtagtt	tctaagtaga	360
aatagtgtta	tactatagag	ggtagattgg	aactgctttt	tcattttata	tatmggcatt	420
gtcattagac	ac					432

<210> 82
 <211> 489
 <212> DNA
 <213> Homo sapiens

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<400> 82
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agttgcggca gcatcagctg cttcaagaga tttcagtgga ataggtgggt taggagagct      120
gttggaaggt tcttcagaag catcaaagtt gagttccaaa agtgctaaag aatggaggaa      180
ccgaaggaag aaaagaagac agagagagca ccttgaagga aacaacaaag gagagagaga      240
cagctttccc aaatccgaat ctgaagacag cgtcaaaaga agcagcttcc ttttctccat      300
ggatggaaac agactgacca gtgacaaaaa attctgctcc cctcatcagg tatgattttc      360
tactaagtgc tctggtttct ttgtcattgc tattgctttt tagtttttgt attttgtttt      420
ggtacacttt tgtactatct gtacttcagt tgagggacag ggaactaaca tttaatatag      480
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<210> 83
<211> 653
<212> DNA
<213> Homo sapiens

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<400> 83
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ataaatttga ttatccatgt ttaagggcaa gagtatacta actccaaaga aaacagatcc      180
tttaatatata atatttatta aataattgcg ttcttcccct acccccatcc cattcctttc      240
ctttttgctt tctctgcagt ctctcttgag tatccgtggc tccctgtttt cccaagaacg      300
caatagcaaa acaagcattt tcagtttcag aggtcgggca aaggatgttg gatctgaaaa      360
tgactttgct gatgatgaac acagcacatt tgaagacagc gaaagcagga gagactcact      420
gtttgtgccg cacagacatg gagagcgacg caacagtaac gttagtcagg ccagtatgtc      480
atccaggatg gtgccagggc ttccagcaaa tggggaagat gcacagcact gtggattgca      540
atggtgtggg ttccttggtg ggtggacctt cagctctaac gtcacctact gggcaacttc      600
cccagaggtg ataatagatg acctagctgc tactgacatt attcaccaat ttg      653

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<210> 84
<211> 566
<212> DNA
<213> Homo sapiens

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<220>
<221> misc_feature

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<222> (477) .. (477)
 <223> n = a, c, t or g

<400> 84
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 tgcaaagaaa tgctatgtgg tgttgtatta cttattggga agagtgggtt gagccatcag 180
 tatttggttt gcagggcacc accactgaaa cggaagtcag aaagagaagg ttaagctctt 240
 accagatttc aatggagatg ctggaggatt cctctggaag gcaaagagcc gtgagcatag 300
 ccagcattct gaccaacaca atggaaggta agagcaggtc atggaacagc caactttctg 360
 tgattatgtg ctttgtgaac tattccttct tttcatagaa ttactgaagt ctgttaccca 420
 gatcgaacta tatattagac ctaagaatgt gatatatggg gtacattatc acattgntta 480
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 atttcaacac ttgatattat atcaat 566

<210> 85
 <211> 748
 <212> DNA
 <213> Homo sapiens

<400> 85
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 aaaaagtcga tctatatgac attttaatta acattttctg aaaatattta atgggattgt 120
 cttctcaagt ttcttaagta atatgaactt ctattttcaa atataagcat caattttgtt 180
 aaataatgta aaatctacta gcaataataa ctcatTTTTg ttgttattta ctactcttcc 240
 ttgttattgt ccttccagaa cttgaagaat ctagacagaa atgtccgcca tgctgggtata 300
 gatttgccaa tgtgttcttg atctgggact gctgtgatgc atgggttaaaa gtaaaacatc 360
 ttgtgaattt aattgttatg gatccatttg ttgatcttgc catcactatt tgcattgtct 420
 taaataccct ctttatggcc atggagcact accccatgac tgagcaattc agtagtgtgt 480
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 gagagataga ccaaagggaa agatgtatTT gtgctgtggt gaacccaaaa attatattct 600
 ctttcctcat agaaagaaat atctaaggaa tattacaggg aatctcagag atacagccta 660
 aaactcaact ggtatgaatg ctgattgttt aggccaatgt ctgtgctgat tgatcatggg 720
 gtcttaccag ttgtaaactg ctcaaaat 748

<210> 86
<211> 664
<212> DNA
<213> Homo sapiens

<400> 86
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tgtctaattgt tcttctttat aaattcgtgt agcatcagtg ttttcagtg tcttgatagt 120
agtgcctgatc tctaattttt taggtcttta ctgggatttt tacagcagaa atggttctca 180
agatcattgc catggatcct tattactatt tccaagaagg ctggaatata tttgatggaa 240
ttattgtcag cctcagttta atggagcttg gtctgtcaaa tgtggaggga ttgtctgtac 300
tgcgatcatt cagactggta tctatttata tatatccctg tcgctcattg gcacaacatt 360
tattttgaaa ttgaatcaat gtatatttat ataattatta attttaattt taaatttaca 420
tcaatatgtg acattctaag aaaacatgta aacatccyct ttaaagctaa accattttct 480
aagaatgatg aaagcattca aaatactcta taatgattag gtatgtaggg cacattagaa 540
aacctacaag tactttctaa aactgtgttt taagtttatg aagctttttt ggcccttacag 600
tctgtaaaga tacgcaaata aaaatttaga cccagttta ttttagcttt ttattaacct 660
tact 664

<210> 87
<211> 750
<212> DNA
<213> Homo sapiens

<400> 87
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ccacgtgtgg ttctatgata ccacatacta ataaaataat gtctaaaatt atattatgat 180
tactactaac agcatctttt cacttgatta cagcttagag ttttcaagtt ggcaaaatcc 240
tggcccacac taaatatgct aattaagatc attggcaatt ctgtgggggc tctaggaaac 300
ctcaccttgg tgttgcccat catcgtcttc atttttgctg tggctggcat gcagctcttt 360
ggtaagagct acaaagaatg tgtctgcaag atcaatgatg actgtacgct cccacggtgg 420
cacatgaacg acttcttcca ctcttctctg attgtgttcc gcgtgctgtg tggagagtgg 480
atagagacca tgtgggactg tatggaggtc gctggccaaa ccatgtgcct tattgttttc 540

atgttgggtca tgggtcattgg aaaccttgtg gtatgtatgt agtacaaatg ctcataaatt	600
agaacaagag cagacagtag ctaggaacgt ggccagatgt agtaaacata tctctggttt	660
atagtaagtg gcctagactg aaatccccct attagcactc agagaataag caagttattt	720
aacttctcct gggctctggt ttcccatttt	750

<210> 88
 <211> 768
 <212> DNA
 <213> Homo sapiens

<400> 88	
ccttagagca ggatattagg tcctttaaag agtgtgtgac ttagacatgg catctgaaat	60
atagtaagca ttcaataaac atttgttgaa ataatttttag caaagatcta tgagttccct	120
ttttaggctg ttattttaaat gcatatttca atattaarat aggcattttt ctttttttct	180
tttaggttct gaacctcttt ctggccttat tgttgagttc atttagctca gacaaccttg	240
ctgctactga tgatgacaat gaaatgaata atctgcagat tgcagtagga agaatgcaaa	300
aggggaattga ttatgtgaaa aataagatgc gggagtgttt ccaaaaagcc ttttttagaa	360
agccaaaagt tatagaaatc catgaaggca ataagataga cagctgcatg tccaataata	420
ctggaattga aataagcaaa gagcttaatt atcttagaga tgggaatgga accaccagt	480
gtgtaggtac tggaagcagt gttgaaaaat acgtaatcga tgaaaatgat tatatgtcat	540
tcataaaciaa cccagcctc accgtcacag tgccaattgc tgttggagag tctgactttg	600
aaaacttaaa tactgaagag ttcagcagt agtcagaact agaagaaagc aaggaggtaa	660
ggaatgcttt taaatttttt gttccatttc ctatgataac catgtactac agttatttac	720
tatttttcatt gtgcttatat gcattatcga aaagcaatga ttgtaagt	768

<210> 89
 <211> 471
 <212> DNA
 <213> Homo sapiens

<400> 89	
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ttttcacaca atgacacagt atttcccagt tagttaaata aaagggggaa aatcacatct	120
ttgaaatggg attttgtttc cagaaattaa atgcaaccag ctcatctgaa ggaagcacag	180
ttgatgttgt tctaccccgga gaaggtgaac aagctgaaac tgaacccgaa gaagacctta	240
aaccggaagc ttgttttact gaaggtaaac aagctctgat gtgattaaat acaatctccc	300

cttggttcttt acggagactg aatatgcctc atttaaaaaa aaaaatttag caaacgaggt	360
gtgggtggctt atgcctgtaa ccccaaaatt ttgggaggtc acggtaggag gattgcttga	420
ccccaggagt ttgagaccac cctgggaaat gtagtaaggc tttgcctcta c	471

<210> 90
 <211> 623
 <212> DNA
 <213> Homo sapiens

<400> 90	
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gctgacgata actaggaaat gaaggagatg gttaccctat gaaatgatta cctggaagtg	120
gagtgggggaa ggggcaagaa agtttatttt ttcctattta agattaaaat atatttttta	180
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gaagaaggca aagggaagat ctggtggaat cttcgaaaaa cctgctacag tattgttgag	300
cacaactggt ttgagacttt cattgtgttc atgatccttc tcagtagtgg tgcattggta	360
agtgaaatgc atattggcaa gaatcagatt ctggtgaaat agtttattct ccaaaattac	420
cagatgcaaa cactgagctt cagaatcaaa agaaaaggca tatctgtgtc ttgcagagct	480
tggcacccaa ggtttaacga tgcaaaattc agttctgaac aaatcagcac catgaaacag	540
ccagatggaa tttctcatct ggtgtttatc taacagatgt tttcctcact gagacaacca	600
tttgcagaga cattctgtaa cca	623

<210> 91
 <211> 520
 <212> DNA
 <213> Homo sapiens

<400> 91	
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ttattctttt gtactcacta ttatactaag caattttttc aaatatttag aagaagcaag	120
ccatttaagt aaaataaaat atttttgatt cataggcctt tgaagatata tacattgaac	180
agcgaaagac tatcaaaacc atgctagaat atgctgacaa agtctttacc tatatattca	240
ttctggaaat gcttctcaaa tgggttgctt atggatttca aacatatttc actaatgcct	300
gggtgctggct agatttcttg atcgttgatg taagtatttt aagtgatttt tataaaattg	360
tttttaaaag aggcaagttt gacatttcat atgtttctgt tattaaaact ttcactaata	420

atgacataat tatgcagtta tttaaacaaa actgtaacat atgcaacaat gaggaatatc	480
tcatggggaaa gagtagagga ggtcctaaac atggggcagtg	520

<210> 92
 <211> 595
 <212> DNA
 <213> Homo sapiens

<400> 92	
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atcagtggta tatgcacaag ttgaaaaggg gtccatggta taaaatatct aactggagat	120
attgacacgt gttgataaat atgggcaagt attctggttt cattgggttaa aaaaaagcaa	180
tagtatgaga tgagactggc aatataagat gacccacta tgtggaagat gaaagttgcc	240
aagggtatgtc caaattagta tttagtctgc attaaataga taccacaccc tataccttca	300
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gttagcctgg tagccaatgc tcttggtac tcagaactcg gtgccatcaa atcattacgg	420
acattaagag ctttaagacc tctaagagcc ttatcccggt ttgaaggcat gagggtaaga	480
agaatagaca ctctaattat tcatgtcaaa aattacatgt aggtaatgat ttagatagaa	540
aagggtgcca tactottctg atattttatt caatagaaat tacagaatta gaagc	595

<210> 93
 <211> 787
 <212> DNA
 <213> Homo sapiens

<400> 93	
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ttttccttca aatatgtgct agaaaaatta gaagaaacaa cttgtccacc tagattttta	180
tttaactctt ttcaagcaca tattaatact aaacaaatac attgaaggaa tggtttccat	240
tcaaaagggt tgtaagctat gttccctcg ctgtctcttc taggtggttg tgaatgctct	300
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aacgggtaac atgtttgaca ttagtgatgt taacaatttg agtgactgtc aggctcttgg	480
caagcaagct cgggtggaaa acgtgaaagt aaactttgat aatgttggcg ctggctatct	540
tgcactgctt caagtggtaa gtggctactg tacgagtttt gaaaaagttt tcaagatggt	600

tcaaggaaga ttatttccct gatgttcttc gtttgaatga ctaacatttg acagcatgaa	660
aaaaagttaa tgataacacc tataatatca gcttgaattg atcataaaaa agatgttaca	720
attattttat aatgtatttt ccttagtggt aagcttttag tatgttttaa tgtgatttta	780
tattttct	787

<210> 94
 <211> 438
 <212> DNA
 <213> Homo sapiens

<400> 94	
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ctcttgatat gaaatttcac aatattgtac aaaaagttat ttgttataat actgtcagat	120
tttcatctgg ttaaagtca ttgttaggtg aaatttttat gaacaattca aatatatgtt	180
atttacaggc cacatttaaa ggctggatgg atattatgta tgcagctggt gattcacgag	240
atgtaagtat cactcaaata ttatttatag gttctagatt tcttatgggtg aatattgggtg	300
gtaatttaaa cactgatata tccaaaattc tatattagaa catttaatat tgcatataaa	360
aaatgaacag tctgcttcaa tatagatgat gcttgattaa tgtgtgcta atatacaata	420
tgtagcta atgaaacg	438

<210> 95
 <211> 637
 <212> DNA
 <213> Homo sapiens

<400> 95	
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actagatcat actagtttta aaaaattggt tttgtagaac aatatctcag ggtaaggcaa	120
aagtagcact gtattaagta acagcactca ataaattact gatttagtgt aagtatttat	180
agtatttttc atattattta atattttcaa tatcatttag gttaaacttc agcctgtata	240
tgaagaaaat ctgtacatgt atttatactt tgtcatcttt atcatctttg ggtcattctt	300
cactctgaat ctattcattg gtgtcatcat agataacttc aaccagcaga aaaagaagat	360
aagtattctt tagcttttac ctttcttcat tctgggggtc tgtctgttaa tacagccaaa	420
taaccagaat acctgtgggc atgacagact taaatcatgt ttatattatt ttcagttgcc	480
catgtgggta ttttaagctgc agggattcca gcctctagtc agtggctcct ctcaaagttt	540

atctattgga tagctttctg acccaaaaat gtgtccactc cttcggaccc atccaacggg	600
tctccagtgc tttagcttgg cttacagagc ctttcag	637

<210> 96
 <211> 637
 <212> DNA
 <213> Homo sapiens

<400> 96	
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tttatgtacg taaggatttt gcataatatt aagatattca gaatttcaca taaatgggaa	120
aagcaggata aatgtatatg taggaggata atatccactt aaaaattaga aaagattaaa	180
ggaaagacaa atatTTTTTg tgaaagtact attggaacac agaattgtaa ccagttttat	240
actatgtctt tactttggag gtcaagacat ctttatgaca gaggaacaga aaaaatatta	300
caatgcaatg aagaaacttg gatccaagaa acctcagaaa cccatacctc gcccagcagt	360
aagaattact tgtctccttt aatgttccaa agccatgctg ccatatgggc aaattgagca	420
atgctctgga gcagaacata ttaggtgata tcaccaatat tgagccctaa ttataaagtt	480
catatTTTgc atcataattc acaacttctg cactcattag gagttaccac attccaaaaa	540
aaggaggtaa tgttctttat aatttgtgag ttgaaaactt ctagctcagg gttcctaata	600
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<210> 97
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